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NOTICE.

An error was made in the paging of the English edition of this Number at page 432, which was not discovered by the American publishers, until too late to rectify it. They mention this lest it should be supposed that there is a deficiency of 10 pages. The number is complete as it is, and as the Index has been made to correspond with the paging, no inconvenience will arise from it.

Some apology may also be thought due for the late appearance of this Number. This was occasioned by the miscarriage of a part of our English copy, and the temporary removal of our Printing Office—circumstances not likely to occur again.

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American reprint

THE

MEDICO-CHIRURGICAL REVIEW,

AND

JOURNAL

OF

PRACTICAL MEDICINE.

NEW SERIES.

VOLUME EIGHTEEN.

[BEING VOL. XXII. of ANALYTICAL SERIES.]

[1st of OCTOBER to 30th of MARCH,]

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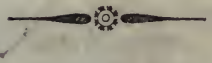

EDITED BY

JAMES JOHNSON, M.D.

PHYSICIAN EXTRAORDINARY TO THE KING OF GREAT BRITAIN,

&c. &c. &c.

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" Nec tibi quid liceat sed quid fecisse decebit
" Occurrat mentemque domat respectus honesti."—CLAUD.

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INTELLIGENCE, CORRESPONDENCE, &c.

We understand that the Central Board of Health is to be immediately dissolved—a fact which gives us much pleasure, not from any hostility to its members, or jealousy of their emoluments or good quarters in Whitehall; but on account of the cause of their medico-political dissolution—the cessation of cholera in the Metropolis, as well as in most other parts of the Kingdom.

The last measure that emanated from the Central Board, was the wisest and the best that was ever engendered there—a recommendation to the Hospitals of the Metropolis, and, consequently, to all other public Institutions of this kind, *to receive cholera patients, in future, as they would patients labouring under any other disease!* This speaks for itself; and happy would it have been for society, in this country, had "CHOLERA HOSPITALS" never been projected, and had the sick been received into the public institutions already in existence. When they were were filled, it would have been time enough to construct others as appendages, but not as *pest-houses*, which frightened and prejudiced the poor against such asyla. One thing is clear—that if it be right, in future, to receive cholera patients in public hospitals, it would have been right in times past.

MEDICO-CHIRURGICAL REVIEW.

Numbers XXVII. and XXXI. of the present Series having been out of print for some time, so that complete sets cannot be made up, the Editor will feel particularly obliged to any Gentleman holding either of these Numbers, and not having the Series, to favour the Publisher (Highley) with the said Numbers, when the full price will be returned, and much obligation conferred.

Communications have been received from Dr. MACROBIN, of Aberdeen—from P. M. LYONS, Esq. of Brighton—from Mr. BULLAR, and others, which are under consideration.

LITERARY INTELLIGENCE.

Dr. BOOTT is preparing for publication, in two octavo volumes, to be published in January, a Memoir of the Life and Medical Opinions of Dr. Armstrong, late Physician of the Fever Institution of London, and author of Practical Illustrations of Typhus and Scarlet Fever; to which will be added, an Inquiry into the Facts connected with those Forms of Fever attributed to Malaria and Marsh Effluvium.

Mr. CURTIS, Aurist to His Majesty, has in the press, besides a new Edition of his Essay on the Deaf and Dumb, a Treatise on the Diseases of the Eye, with new Modes of Treatment; with a Plate, shewing the connexion of the Organs of Hearing and Sight.

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INTELLIGENCE, CORRESPONDENCE, &c.

COOKE'S TRANSLATION OF MORGAGNI.

We observe that some copies of that inestimable and inexhaustible treasure of information, the work of Morgagni on the "Seats and Causes of Diseases," translated by Mr. Cooke, are to be procured from any of the London Booksellers for the trifling sum of Sixteen Shillings! We recommend those of our readers who do not possess the work, to order it immediately.

Dr. Gilchrist's paper on Homeopathy has been received.

Dr. Donavan's case and Drawing of Disease of the Tongue, came safe to hand.

Dr. O'Beirne's work in our next.

Our article "Excerpta Choleralogica" is deferred till next quarter, which will account to several correspondents for omissions in this number.

A translation of Mad. Boivin's Maladies de l'Uterus, by Mr. Hemming, is in the press.

Dr Spence

THE

Medico-Chirurgical Review,

No. XXXV.

OCTOBER 1, 1832, TO JANUARY 1, 1833.

I.

ON THE INFLUENCE OF PHYSICAL AGENTS ON LIFE. By Dr. *Edwards*. Translated from the French, with Notes by Dr. *Hodgkin*, and Dr. *Fisher*. 8vo. pp. 488. Highley, London.

THE object of Dr. Edwards' researches is to examine and ascertain the effects produced by air, water, temperature, light, and electricity, those agents, whose operation is continually, although often imperceptibly, exerted on the life of different animals. It is true that they almost always act simultaneously and conjointly; and hence it is no easy affair to discriminate the influences of one alone from those of the others; the air, besides its elementary constituents, is charged with moisture and electrical fluid; the quantity of heat and of light too is ever varying, so that in our inquiries into the agency of the atmosphere on animal existence, we ought to consider it under the conditions, not only of its chemical purity, of its quantity, motion, rest, weight, and rarity, but also of its dryness and humidity, of its strong and feeble electricity, of its translucency and darkness, and of its degrees of temperature.

Dr. Edwards has laboured most meritoriously and with the most gratifying success in elucidating the influence exerted by each of these physical powers, separately and conjointly, and the present work is the record of the almost countless experiments which he has performed, and of the conclusions to which these experiments have conducted him. It is in truth a rich granary of curious and interesting facts, collected for a series of years with unwearied industry: and as most of his statements have been confirmed by the researches of others, we may place the most implicit reliance on their authenticity and correctness. So high is our opinion of the author's talent and ingenuity, that we regard him quite as a pattern and model to all physiological experimenters: his are not the once or twice observed phenomena, and the rapid inferences; the single fact, or fact supposed, and the widely spreading hypothesis, but the oft-repeated, and varied trial, on numerous animals of different classes and of different modes of existence, and the

cautious and slow inductions of a truly philosophical mind. He began his researches, by ascertaining the influence of the physical agents on the lower orders of vertebrated animals, and proceeded up the scale to man. We shall follow him as closely as possible, in order that our readers may have a faithful summary of his labours.

It has been long known that animals of inferior organization are, generally speaking, less affected, and less dependent on external influences than those of a higher grade; that they have greater tenacity of existence; that this existence has more and more of a vegetable character, stronger in itself, as a whole, and better able to withstand rude shocks and injuries; and also, stronger in the separate vitality of its individual parts, so that they will often continue to live even when they are dismembered from the parent stock.

Dr. Marshall Hall has very recently published some interesting observations on the mutual connexion, or at least, co-existence of high or low irritability among animals, with a state of less, or more perfect developement of the function of respiration. By the term "irritability" he means the power of retaining vitality, under the privation of food and air, and after the infliction of any mutilations. We shall allow him to speak for himself.

"The quantity of respiration is inversely as the degree of irritability, and the facts, that the activity of the animal is directly as the former, and that its tenacity of life under the privation of air, food, and other stimuli, is directly as the latter. The very young animal has a lower respiration, and a higher irritability than the adult. It has less power of evolving heat, and a greater power of bearing the privation of air.

The adult animal has a higher respiration, and a lower irritability. It has greater activity, and less tenacity of life, under the privation of air and food.

The animal which maintains a steady given temperature, has a higher respiration, and a lower irritability, in winter than in summer. Animals which do not maintain their temperature, have a lower respiration, and a higher irritability, in winter and summer. When the cold induces the state of torpor, these phænomena are observed in a still more marked degree, and the animal bears asphyxia, and the privation of food, with comparative impunity." 469.

We have already stated, that Dr. Edwards commenced his researches on the lower classes of animals, and gradually ascended the scale of organization; his first inquiries are, on the influence of the atmosphere on the batrachian reptiles, such as frogs, toads, and salamanders.

"I strangled six frogs, by tying, very tightly, with a packthread round the neck, a piece of bladder fitted very closely to the head, so as to exclude the air. In fact, the ligature was sufficiently tight to effect this of itself. At first the frogs were paralysed, but they afterwards to a great degree, recovered, and lived from one to five days." 11.

He repeated the same experiment on salamanders, with similar results.

"One of these animals lived twelve days, when the head became gangrenous; it afforded me an opportunity of making observations analogous to those of M. Dumeril, in his interesting experiments on a salamander, which survived decapitation a sufficient length of time for the neck to cicatrize." 12.

If instead of strangulation, we drown a frog in distilled water, life is extinct in a very much shorter space of time; hence we may infer that the air exerts a vivyfying influence on the nervous system, and probably also on the

cutaneous circulation of the animal. Dr. E. suspected that the water might be positively injurious per se, as well as by excluding the breathing; and in order to ascertain this, he annihilated the functions of circulation and of respiration, by cutting out the hearts of salamanders, and afterwards exposing some of the animals to the air, and immersing others in distilled water of the same temperature.

"In about four or five hours the salamanders in the water appeared dead; but that life still existed was rendered evident, when they were moved or pinched. One died in eight hours, the other in nine. Those in the air, however, lived from twenty-four to twenty-six hours." 10.

Again:

"If a frog, thus deprived of its heart, and immersed in water, be drawn out and exposed to the air, at the moment when all signs of life have disappeared, it immediately begins to recover. If it be again plunged in water, all appearance of life instantly ceases; and it may thus be made, several times alternately, to lose and recover its motion and sensibility. 10.

We may, therefore, infer that air, in comparison of water, has a superior vivifying influence, or at least acts less deleteriously on the nervous and muscular system of batrachian reptiles, independently of its action on the functions of respiration and circulation. The application of this discovery to any reasonings on the axphyxia of these animals, induced by strangulation or by drowning, is too obvious to be commented upon; and we are thus led to appreciate the importance of a comprehensive and accurately ascertained knowledge of facts, and of most cautious speculation, in all physiological inquiries.

Our readers will, no doubt, perceive that even the experiments of Dr. Edwards, hitherto enumerated, do not quite satisfactorily exhibit the simple and unmodified effect of interrupted breathing on the batrachian animals, since a mechanical injury was inflicted, at the same time, by tying a ligature round the neck. In order to obviate this objection, and to ascertain simultaneously the influence of the air on the cutaneous circulation, he inclosed the frogs, toads, and salamanders in a solid material, which should exclude the air from the lungs, and also from the skin, and which should exert no deleterious influence on the nervous system. He filled five small boxes with plaster, and imbedded a toad in each of them; they were all alive on the 19th day afterwards. Frogs, placed in dry sand, were also found perfectly alive after many days.

Now, what at first view appears strange is, that if these animals be exposed to the air in small dry bottles, they will be observed to die much more speedily than those which had been encased in the plaster, or sand. The explanation of this occurrence is proved by Dr. E. to be—that, in the former case, they rapidly waste, and undergo complete desiccation. The more rapid death is, therefore, to be attributed to the greater loss of the fluids by perspiration, the truth of which is readily proved—

"By exposing some frogs to the air in dry vessels, and burying others in dry sand, and afterwards weighing them, at intervals of two, three, four, and five days, I uniformly observed a greater loss in the air than in the sand. Comparative experiments were also made in air and plaster upon toads, and the difference was much more striking than in the sand. Hence the cause of the greater duration of life in sand or plaster than in air, is from the perspiration being more abundant in the air than in the solid substances.

Under an exhausted receiver, in which the effects of rapid evaporation and absence of air are combined, death, as might be expected, takes place very speedily." 15.

Before we quit this part of the subject, it is of importance to mention, that Dr. Edwards has most satisfactorily ascertained that carbonic acid is secreted by the skin in frogs; thus a most intimate association and sympathy of function between the lungs and external surface exist, at least in these animals.

Several of the above observations are probably new, and all of them, no doubt, interesting to our readers; but the following are still more curious, and, we trust, will arrest their studious attention, as they are admirably fitted to throw light on one of the innumerable, wonder-working operations of animate nature.

In the months of July and September, when the temperature of the atmosphere was from 60° to 58°, several frogs were drowned in Seine water, the temperature of which was 60°; the mean duration of life, or of sensibility to stimuli, was 1 hour and 37 minutes in July, and 1 hour 45 minutes, in September. But if the water was cooled down to 50°, the frogs were found to live from 5 to 6 hours; if to 32°, from 7 to to 8 hours, 18 minutes. If, on the other hand, the temperature was raised to 72°, the frogs lived only from 70 to 35 minutes; if to 90°, from 32 to 12 minutes; and if to 108°, they lived scarcely a few seconds, and in no instance for more than 2 minutes.

It appears, therefore, that the temperature most favourable to the continuance of the life of frogs, immersed in water, is that near the freezing point; but we shall find that, in conducting such experiments, we must pay regard not only to the agency of the means we employ, but also to the season of the year at which we perform them. We have already seen that, when frogs were drowned in water of 60°, during July and September, the average continuance of their lives was about 1 hour and 40 minutes; if the same experiment be made in the month of November, Dr. Edwards found that the frogs lived from 2 to 5 hours and a half. All the circumstances being the same in these cases, except the season, it is to this cause that the difference in the results must be ascribed; and, in order to be more completely satisfied of the truth of this, we have only to continue our observations later in the Winter, and we shall find a uniform and progressive manifestation of the same phenomena. Thus,

"On the 22d Dec. the thermometer having been about 0° cent. or 32° Fahr. for twenty days, three frogs were put in water at 10° cent. or 50° Fahr.; they lived from twenty to twenty-four hours. On the 23d Dec. the temperature being still 0° cent. or 32° Fahr. four frogs were placed in water at 0° per cent. or 32° Fahr. the same apparatus being employed as in the preceding experiments. They lived from twenty-four to sixty hours." 20.

We are forced, then, to the conclusion, that the system or constitution of the batrachia undergoes a considerable change, during the year, in the amount of its irritability or vital powers; the change, in all probability, is a gradual one during the warmth of Summer, coolness of Autumn, and the cold of Winter, at which season these animals are found to be most tenacious of existence, and, therefore, capable of resisting for a longer time all influences which are destructive of it. Perhaps there is more air contained in

the water during the Winter season—but this is conjectural, and we must confine ourselves strictly to what is known to be true. That the air contained in water, at ordinary temperatures, has a very marked influence on the duration of the life of frogs, when immersed in it, is readily proved; and it appears from Dr. Edwards' experiments, that when frogs can live from six to ten hours in a certain quantity of aërated water, they die in from three to five hours in water that has been boiled. But the length of time that a frog will continue to live in aërated water depends, in a very remarkable degree, on whether the water be renewed at intervals or not. Dr. E. in the month of December, immersed a frog in a glass vessel, which held 17 pints of Arcueil water; it was drawn off by a syphon every day, only leaving sufficient to cover the animal, and was replaced by fresh. This frog continued to live for more than two months and a half, and its death appeared to be occasioned by an accidental neglect to renew the water.

"This experiment shews the remarkable fact, that frogs are really amphibious, since they can not only breathe the air of the atmosphere, but can also live exclusively by means of the air contained in water.

Tadpoles, which are possessed of gills as well as lungs, can also live in water without coming to the surface; a fact which I proved by an experiment, conducted in the same manner as that which has just been detailed. They cannot, however, live on land previous to the full developement of their limbs." 27.

It may be enquired, on what part does the water, or rather the air in the water, act: is it admitted into the lungs, or is its operation limited solely to the skin? That the former is not the case is proved, by all observers having remarked that, when a frog is plunged into water, it is extremely rare that any movement of deglutition (our readers probably know that frogs swallow, and do not respire air) can be seen; and Dr. E. to establish this still more conclusively, has most carefully examined the lungs after such experiments, and in no instance has he ever detected any water in them. We must, therefore, refer the action of the aëration to the skin, the only other organ in contact with the fluid. That the blood is actually aërated is shewn by the fact, that the contents of the arteries, in the webs of the feet, are evidently florid.

From the foregoing details we are authorized in concluding, that the duration of the life of batrachian animals, when immersed under water, varies exceedingly—first, according to the presence or want of air in the water; secondly, on the quantity, or, what is equivalent, the renewal of the water; and, lastly, according to its temperature, and to the season of the year at which the experiments are performed. We have seen that, in a small quantity of water, even when aërated, they live only for a few hours; that if the water be changed every day, the life may be prolonged, provided always the temperature is not much elevated. So striking is the influence of this last agency, that if we immerse frogs in two gallons of water, of a temperature between 32° and 50°, they may be preserved a long time alive; but if the heat be raised only two or three degrees, the animals will much more speedily die, unless the quantity of air be increased, by furnishing, in a given time, a greater quantity of aërated water; and the correctness of this statement is beautifully confirmed, by finding that frogs, immersed in running water, can resist an elevation of temperature, which would be fatal to them in vessels if the water be changed only once a day. Although these

animals can live under water of a low temperature, we must not suppose that they retain all their natural alacrity of existence.

"The extreme activity of frogs is well known, and there is a striking contrast in this respect between them and toads; but keeping them under aërated water destroys this characteristic. It does even more; they become so sluggish in their movements as to resemble tortoises. The slightest noise, which in their state of liberty excites a panic among them, at that time makes no impression. Light, which, on other occasions calls them so easily to the surface, no longer induces them to rise, when the temperature is sufficiently low. They have, however, the faculties of sense and motion; but in air of the same temperature they are extremely lively." 34.

We regret that Dr. Edwards has not carried his experiments so far as to ascertain the absolute longest period that frogs can live under water in the most favourable circumstances; we cannot believe that they can ever be made altogether independent of pulmonary aëration, especially, as we find that a residence of six or eight weeks induces such a sluggishness of vitality.

In order to determine the comparative importance of the pulmonary and cutaneous functions, Dr. Edwards instituted the following experiments. On one occasion he gagged six frogs, the temperature (and let this be observed) being 75°. Five died on the following day, and the remaining one lived till the 7th. At another time he strangled the same number of frogs by applying a ligature tightly round the neck, the thermometer standing at 53°; they were placed on wet sand. They lived a considerable time [the exact duration of time ought certainly to be stated—ED.] one of them for twenty days. En passant, we suspect that Dr. Hodgkin has not very faithfully translated the original of Dr. Edwards, or at least, has omitted the details of some experiments, whereby confusion has been introduced; for example, at page 11, it was said, as our readers will observe in the extract we have given them, that frogs, when strangled, lived only from one to five days, whereas, we are now told, at page 36, that they have survived for twenty days. There appears much incongruity in these two statements, and they can be reconciled only by supposing that, in some other respects, perhaps that of temperature, one of the most influential agents, the experiments were not identical.

Not satisfied with either of the above methods, Dr. Edwards cut the lungs completely out, which may be done by a very slight incision, and with little loss of blood.

"I performed this extirpation in the middle of December, 1818, on three frogs of moderate size. They did not appear to suffer much, and presented, after the operation, the same activity as those which had not been touched. I placed them upon moist sand. The temperature of the room was 7° cent. or 45° Fahr., and it rose to 12° cent. or 53° 6′ Fahr. on the 17th Jan. 1819. Two died at this time, having lived thirty-three days, and the third on the 24th, having lived forty." 37.

It appears, therefore, that the skin of itself is insufficient to purify the blood. Let us now see whether the lungs can affect this without the co-operation of the cutaneous function. A frog was placed in a glass, holding five ozs. of water; a lid, with a central opening, was laid on the surface of the water, so that the only point at which the air came in contact with the animal, was at the opening, where it breathed. The water was changed every day, and

it lived for three months and a half. It may be objected that the air contained in the water acted on the skin. Another method was therefore employed. The skin was coated with different varnishes, but these did not adhere: oil would exclude the air, if it were free from objection in other respects. If it be substituted for water in the glasses with perforated lid, the frogs were found to die in from 7 to 20 hours. We are surprized to be told in the next sentence, that if some frogs be drowned in vessels holding $5\frac{1}{2}$ ounces of oil, and others in the same quantity of water, and not allowed in either case to breathe, they lived equally long in both liquids! How does this observation tally with its next door neighbour?—"This substance, viz. oil, has a deleterious action on the skin." We advise Dr. Hodgkin to re-examine and compare these and other passages, in the event of a second edition being required. The conclusion is, in all probability, a just one, that the lungs alone in the batrachia, unassisted by the skin, is incompetent for the aëration of the blood, although we must acknowledge that the experiments on this head are not nearly so satisfactory, as those which have reference to other subjects. We have already illustrated the very striking influences of different temperatures, on the life of frogs, but as yet we have not attempted to explain, or account for these; perhaps one among several reasons, is, that the higher the temperature may be, the greater is the loss by perspiration, and this loss is not compensated by equivalent absorption. The skin of the batrachia seems to be an active exhaling and absorbing surface; the rapid loss of weight of a frog, exposed to dry air, abundantly proves the former, and its speedy recovery of the lost weight, when immersed in water, equally demonstrates the latter proposition; the preponderance of the one function over the other depends much on the temperature. It is stated by Dr. E., that—

"It appeared from experiments, that at 0° cent. or 32° Fahrenheit, the absorption predominates over the loss of weight; while at 30° cent. or 86° Fahr. the losses are greater than the increase by absorption. It was also observed that elevation of temperature in water had a marked tendency to augment the animal excretions; from which we seem authorized to conclude that an analogous effect would be produced upon perspiration in the air." 50.

We have now finished our analysis of that portion of Dr. Edwards' work, which treats of the influences of air and water on the life of the batrachian reptiles, and proceed to the second part, which is devoted to a similar examination of fishes, and the remaining orders of reptiles, viz. lizards, serpents and tortoises. But we shall first offer a few remarks on the effect of some physical agents on the transformation of tadpoles into perfect animals. Our readers are probably aware, that tadpoles unite, in regard to respiration, the functions of reptiles with those of fishes, from their possessing two kinds of breathing organs, viz. lungs and gills; hence they are more independent of the external air than frogs, and can continue to live under water in more unfavourable circumstances, as for example, in higher temperatures, without having recourse to the surface to breathe; and if we so conduct our experiments, that the tadpoles are kept constantly under water, we find that they undergo the change from a larva to a complete animal, very slowly, imperfectly, and probably often not all. To demonstrate this—

"I procured a tin box, divided into twelve compartments, each of which was numbered and pierced with holes, so that the water might readily pass through the box. A tadpole,

(which had been previously weighed) was put into each compartment, and the box was then placed in the river Seine, some feet below the surface. A larger number was at the same time put into an earthen vessel, containing about four gallons of Seine water, which was changed every day. These tadpoles were at liberty to rise to the surface and respire air, and they soon went through their metamorphosis. Of the twelve placed in the box under water, ten preserved their form, without any progress in their transformation, although some had doubled, and others trebled their weight. It should be observed, that at the time when the experiment was begun, the tadpoles had acquired the size at which the change is about to take place. Two only were transformed, and this very much later than those which, in the earthen vessel, had the liberty of respiration in air." 53.

In drawing any conclusions from this experiment, we must keep in mind, that the tadpoles were deprived of the genial influence of light, an agent of primary importance in the developement of all organized forms. It is a fact of great interest, that the proteus (which our readers are perhaps aware, and the siren, are the only two strictly amphibious, that is, having lungs and gills, animals known) has been always found placed in those conditions, as to temperature, darkness, and respiration, which we have shewn above, are those in which the bronchiæ are likely to remain; it inhabits the subterranean waters of the lakes of Carniola. Before quitting this subject, we must not omit to state, that the quickness of the transformation of tadpoles is much influenced by the quantity of nourishment afforded to them; it may be greatly accelerated by feeding them with crumbs of bread and other nutritious substances, especially if the season be warm and favourable. As a general observation, it may be asserted that the more genial the temperature, the more nutritious the food, and the more exposed, at least within certain limits, they are to the external air, the change is proportionally more speedily effected, and vice versâ.

CHAP. II.—ON THE LIFE OF FISHES, AS AFFECTED BY PHYSICAL AGENTS.

If fishes be kept in water deprived of air, they quickly die; but the period varies, as in the case of the batrachia, according to the temperature of the fluid; the lower the heat the longer they live. In water at 104°, they scarcely ever live more than two minutes. Even in aërated water, provided the quantity be small, exposed to the atmosphere, the duration of life must depend on the temperature; for example—

"If we put a bleak (cyprinus alburnus) into a vessel with a large mouth; containing five ounces and a half of aërated water at 20° cent. or 68° F. in summer, it dies within a few hours: but when the temperature is lowered to 10° or 12° cent., or 50° or 53° F., and is kept at that degree, the animal lives until its secretions are so abundant as to corrupt the water. If, to remedy this inconvenience, we merely renew the water every twenty-four hours, the animal lives in it almost indefinitely." 58.

Now this is exactly what we have above stated to take place with frogs; between 32° and 50°, they live an indefinite time in aërated water, if it be renewed sufficiently often; but they speedily die, if the temperature exceeds this limit. Let us now see how they are affected, and to what extent their vitality is influenced by the atmosphere. Sylvestre ascertained that fishes

died more quickly in vessels where the surface of the water was excluded from the air, than in those where the surface was exposed; we therefore infer that it is necessary for fishes that they should come occasionally to the surface to breathe. To discover the comparative importance of the bronchial and cutaneous functions, Dr. Edwards performed numerous experiments, which certainly have thrown some, but not much, light on the subject. If a fish be taken out of the water, the gills continue to move for a shorter or longer time, the skin becomes more and more dry, and, at the time of death, it is frequently stiff, and, as it were, quite desiccated. Dr. Edwards found that the fish loses during this time, by perspiration, a fourteenth or thereabouts, of its weight. We will readily concede to our author, that such a loss may certainly accelerate the death of the animal; but we suspect that few of our readers will agree with him in the belief, "that the loss which fishes experience by evaporation, is enough to cause their death in air;" and, indeed, the experiments which are next detailed at once negative such an idea.

"A fish which had been wiped and then weighed, was suspended in a limited quantity of aërated water, so that it had its head and gills above the surface; it died in nine hours and twenty-one minutes. On then weighing it again, it appears that it had not sensibly diminshed in weight, but on the contrary had slightly increased." 62.

And again:—

"I placed some fishes in the opposite position to that of the fish employed in the last experiment, that is, with the head and gills in water of the same quality and quantity, and the trunk, suspended in the air by a thread passed through the end of the tail. They lived in this state many days. I weighed them after that interval, and discovered that there was evidently, in this case, a slight increase of weight. But the drying of the surface of the part of the trunk exposed to the air was as marked as in the case where these animals were entirely exposed to the atmosphere, and where they died after a considerable diminution in weight. It is therefore evident that the fluid absorbed by the gills was not distributed to the rest of the body in a proportion sufficient to repair in all parts of the trunk, the loss which it had sustained by perspiration in air." 63.

The statement, therefore, that fishes die from the quantity of water which they lose by perspiration, appears to us most strange, and to be quite contradicted by the author's own shewing. We are surprised that he did not think of the simple experiment, of continually moistening the whole surface of a fish taken out of water; for, according to his view of the subject, a fish so treated should have continued to live for many days, or even months, yet we need not say how different is the result. We regret that the original of Dr. Edwards' work is not before us; for it seems most improbable that such an acute observer, and so rigid an adherer to facts, can have so heedlessly arrived at conclusions, apparently at complete variance with his own experiments.

Chapter 3d treats of the remaing divisions of reptiles, viz. lizards, serpents, and tortoises; it appears to us to be exceedingly imperfect, and we suspect it has been injudiciously curtailed by the translators. The few facts worth notice we shall present to our readers. The lungs are sufficient for the aëration of the blood in the two latter classes; in lizards, on the conrary, the action of the air on their external surfaces is found to be neces-

sary to life. Dr. Edwards accounts for this difference very ingeniously, by the less ample and capacious volume of the lungs in the saurian, than in either the ophidian or chelonian reptiles; he found that the larger the lungs were, the animal was so much more independent of cutaneous aëration. This latter function is of much less extensive influence than in the batrachia, it can no longer compensate for that of the lungs; and we accordingly find that neither lizards, serpents, or tortoises, can be made to live under running aërated water, even when accompanying circumstances are most favourable. The quantity of perspiration has also much diminished; the skin has become scaly or laminated; and from these differences, arises the variety which we observe in the duration of the life of these animals, when deprived of nourishment.

"This diversity (says Dr. Edwards) depends on the rapidity or slowness of perspiration, as is proved by the numerous and varied experiments which I have made on the duration of the life of batrachians, under different circumstances with respect to perspiration, among which the effect of solid coverings was the most remarkable. The influence of temperature on the duration of life in lizards, serpents, and tortoises, is analogous to that which I have already shown to be the case with batrachians and fishes." 67.

The second great division of vertebrate animals, viz. those whose temperature is steadily above that of the surrounding medium, and which, therefore, are denominated warm-blooded, comes now under our consideration, in order that we may ascertain to what extent, and in what manner, they are influenced by these physical agents, whose operation on cold-blooded animals, including all reptiles and fishes, has been already investigated. And, first, we shall endeavour to establish the most prominent and important phenomena, connected with the production of their animal heat. It has been very generally believed, that the temperature of young animals is higher than that of adults; but the belief has not been drawn from experiments, so much as from reasoning on the greater activity of their circulation and nutritive energies. Dr. Edwards has repeatedly examined the heat of young puppies, rabbits, kittens, and other animals, and has never found that it is higher, but generally one or two degrees, or even more, below the standard of the parent. The temperature of very young birds is also less than that of the hen; and the remark is equally true in reference to young children.

"In ten healthy infants, from a few hours to a few days old, in the wards of an hospital, under the care of my friend M. Breschet, the limits of variation were from 34° to 35° cent. or 93° to 95° Fahr.; the mean of the whole number was 34° 75 cent. or 94° 55 Fahr. Their temperature is, therefore, inferior to that of adults; a relative difference rendered probable by analogy, and confirmed by observation." 115.

And, from the following examination, it appears that, in prematurely-born children, the heat of their bodies is less and less, in proportion as the period of their birth recedes from the full term of fœtal life.

"Through the kindness of Dr. Dagneau, who attended a lady who was my patient also, I had an opportunity of ascertaining the temperature of a healthy seven months' child, within two or three hours after birth. It was well swathed, and near a good fire, but the temperature at the axilla did not exceed 32° cent. or 89° 6′ Fahr." 116.

Let us now ascertain, whether new and recently-born animals have the same power of retaining their heat as adults have. Dr. E. tells us, that—

"If, at the temperature between 10° and 20° cent. or 50° and 68° Fahr., a new-born puppy be removed and kept an hour or two from its mother, its temperature falls considerably, and continues falling until, in the course of three or four hours, it stops a very few degrees, above that of the surrounding air." 69.

And again:—

"Another series of experiments was made when the air was 22° cent. 71° 6′ Fahr. Even at this high temperature sparrows of the same age cooled rapidly to within one degree of the atmospheric temperature. It is true that these birds are hatched without feathers, but feathers are merely a covering; although they may *retain*, they cannot *produce* heat. It is from within alone that animal heat can originate, however outward coverings may contribute to retard its dissipation." 71.

The same is true of young hawks, which, though covered with a thick down, and almost as large as pigeons, in an atmosphere of 62°, suffered a diminution of 26° when taken from the nest; hence we infer, that some young birds have an inferior power of generating heat, and are, therefore, less capable of resisting cold. This position is undoubtedly true, but is not of universal application to the progeny of all warm-blooded animals; for example, young guinea-pigs have a heat nearly as high as that of adults, and their temperature does not fall, even when they are withdrawn from the mother. Some birds (the individuals are not stated) also can, as soon as they are hatched, maintain an elevated temperature, even when exposed to the air; they come into the world in a more advanced state than other birds, for, soon after leaving the shell, they can eat and run about, and it is when other birds can do the same, that they also develope the same degree of heat. The young birds which are able to run about, and which retain their heat, are only covered with a tolerably thick down, and not with feathers. If we turn our attention to the young of the human race, we shall find that a new-born infant, born at the full time, has the power of maintaining nearly a uniformly high temperature when separated from the mother; it becomes, therefore, a question of curious interest, to what cause are we to refer the different capacities of the young of birds and mammalia, in respect to preserving or losing their natural heat; and to enquire also, if there be any resemblances in organization which denote and distinguish the two divisions of animals. That the true cause is not to be found in the differences of their skin-coverings, is abundantly obvious; the young child is unprovided with such; and although rabbits (which, as stated above, belong to the cold-blooded division) are born almost naked, puppies and kittens are well covered with hair, and even if we add an artificial covering, little perceptible change results. Dr. Edwards, after much reflection, perceived that a certain relation might be traced between the state of the eyes, at the time of birth, and the power which the young animal has of maintaining a temperature. Some animals are born with their eyes closed—others with the eyes open; the former, Dr. E. observed to be those whose temperature fell when removed from their parents—the latter, those in which it kept steady; or, in other words, the former were cold-blooded at birth, the latter were warm-blooded. In confirmation of this, he also noticed that the heat, or rather the power of preserving heat, of the former, rose gradually to the

standard of the adult animals, and at the end of a fortnight, which is the period when the eyes open, it reaches it perfectly.

"Thus (says he) the state of the eyes, though having no immediate connexion with the production of heat, may yet coincide with an internal structure influencing that function, and certainly furnishes signs which serve to indicate a remarkable change in this respect, since at the period of the opening of their eyes, all young mammalia have nearly the same temperature as adults." 70.

The author does not so cleverly point out any external differences in the young of the warm-blooded and of the cold-blooded birds. It is stated, indeed, that "the young birds, which are able to run about and preserve their temperature, are only covered with a tolerably thick down, and not with feathers;" but the same may be said of the others; and most annoyingly are we informed, in the very next sentence, that "the mammalia born with closed eyes, and birds *hatched without feathers*, produce so little heat, as to be, in relation to the air, in the state of cold-blooded animals"!! How are we to reconcile these two? But even in the case of the young of the warm-blooded birds and mammalia, there is this difference between them and the adult animals, that although the heat of the former is as high, or nearly so, and although they have the power of retaining it, when exposed to ordinary temperatures of the air, yet, if the temperature is much reduced, say to 36° or 40°, they are found to be cooled more rapidly and to a greater extent. This was easily proved by introducing them into glass vessels, surrounded with a mixture of salt and ice. We are, therefore, warranted to make the general conclusion, "that the power of producing heat, in warm-blooded animals, is at its minimum at birth, and increases successively to adult age." On this principle, we may, perhaps, account for the very great mortality among new-born children in Paris, especially during the Winter months.

"It is the custom in France to convey infants, within a few hours of their birth, to the office of the mayor of the quarter in which the nativity took place, in order that the birth may be registered, and the child become possessed of its civil rights. A careful comparison of the register of births, with the register of deaths, furnished statistical observations on so large a scale, that there can be no room to doubt the correctness of the results. It appeared that the proportion of deaths, within a very limited period after birth, compared with the total births, was much greater in winter than in summer, and that this difference of proportion, was much greater in the northern and colder departments, than in the southern and warmer. The details of this investigation are recorded in a paper which the Doctors have presented to the Institute. They have since continued the inquiry, and the following extract from a letter which I have received from Dr. Milne Edwards, will shew the accordance of their results.

'In order to ascertain in a more positive manner than before, whether the mortality of new born children is increased by their being carried to the *maire* immediately after birth, we obtained from the minister of the interior, necessary orders to have the tables of mortality of infants made in a certain number of parishes, where the inhabitants are scattered over a larger surface of ground; and in others, where they are, on the contrary, agglomerated around the *maire*. It appeared evident to us, that if our opinion was correct, the increase of mortality during Winters, must be much greater in the former parishes than in the latter, and such is, indeed, the result actually afforded by our tables.'" 476.

We come now to the consideration of the heat of adult warm-blooded

animals, and to the diversities and modifications which different animals exhibit in their power of producing, and consequently of retaining their heat; and first, of that singular tribe which hibernate at particular seasons. It is well known that some animals, on the approach of Winter, fall into a state of torpor, and death-like inactivity, and remain so till the return of warm Spring-weather; their temperature all the while being scarcely above that of the surrounding atmosphere; their respiration is feeble, irregular, occurs only at long intervals, and nutrition, at least from without, entirely ceases. The species best known in this climate are the bat, hedgehog, marmot, and several sorts of dormice.

What is the true cause of hibernation? An experiment or two will be sufficient to determine this point. It is necessary, however, to premise, that Buffon was quite mistaken when he alleged, that the heat of hibernating animals during their state of active life in Summer, was only 54°; for in truth, they do not differ in this respect from other adult mammalia; Spallanzani, Hunter, and others, found that their temperature was from 93° to 98°. It was ascertained, however, by M. de Saissy, that their temperature falls gradually as the season advances beyond the month of August, at which time it is probably at its maximum.

"On the 6th of August, the temperature of the air being 73° Fahr. that of a marmot was almost 98° Fahr. in the axilla. On the 23d of September, the air was 64° 5' Fahr. and the marmot 88° Fahr. and on the 10th of November, the air was 44° 6' Fahr. and the animal only 81° Fahr. which is 16° 6' Fahr. lower than its temperature in the month of August. A garden dormouse, examined under the same circumstances had a warmth of 88° Fahr. on the 3d of August; 87° Fahr. on the 23d of September; and only 69° 8' Fahr. on the 10th of November, having lost 28° Fahr. since the first examination. The examination of a hedgehog gave the following results. It was 99° Fahr. on the 3d of August; 96° Fahr. in September; and only 57° Fahr. having lost more than 40° Fahr." 77.

Reasoning upon these facts, Dr. Edwards was led to suspect, that hibernating animals, although they may exhibit, in their active state, as high a temperature as other mammalia, have not the same power of resisting cold; and to determine this point, he instituted the following experiment.

"In April, 1819, the air being 61° Fahr. an adult bat, of the long-eared species, recently taken in good condition, and at the temperature 93° Fahr. was placed in an earthen vessel, which was cooled by a mixture of ice and salt, which surrounded it, till the air within was reduced to 33° 8' F. It had a cover, which allowed a free communication with the external air. After the animal had been there for an hour, its temperature was reduced to 57° F., being a loss in this short space of time of 36° F. Guinea-pigs, and adult birds, placed in the same circumstances, lost, at the utmost, no more than two or three degrees, although the influence of the cold was prolonged in this case, to compensate for the difference of size. We see from this, that bats are in the habit of producing less heat than animals which do not hibernate; and it is to this cause that we must chiefly ascribe the reduction of their temperature during the cold season." 79.

We have now only one step further to advance in our enquiries, after the true cause of hibernation. The following observation of Saissy gratifies our wishes. In the months of May and June, he enclosed a marmot with a little straw, in a copper box, the lid of which—

"Was pierced with a hole about half an inch in diameter. After leaving it in an ice-house for twenty-four hours, he exposed it to an artificial cold of 10° c. or 18° F. below the freezing point. It fell into a profound torpor eleven hours after, and although its temperature had fallen from 35° c. or 95° F. to 5° c. or 41° F.; yet its health did not appear more altered than in the ordinary circumstances of hibernation; for, on being afterwards exposed to the warmth of the atmosphere, it recovered from its torpor, and resumed its wonted activity.

This interesting fact shews that hibernating animals may become torpid at any season, and from other causes than the want of nourishment; and also that the phenomena which take place in hibernation do not proceed from any change in the organization of the animal at the end of the summer, as some have supposed. We may now compare the hibernating with the other mammalia, with reference to the external temperature during spring and summer, when both are in the enjoyment of the full activity and vigour of life.

In the preceding experiment, the degree and duration of the cold to which the marmot was subjected, were such as might lead us to question whether non-hibernating animals would not have lost as much heat under the same circumstances, enclosed in a box with so small an aperture, that respiration might have been impeded. We may also conclude, from the following observation of the same author, that cold was not the only influential cause:—'The marmot which I reduced to a torpid state at two different times, only became so, I believe, in consequence of its occurring to me, to close the aperture in the lid at a time when its respiration was much enfeebled. It was only in this manner that I succeeded, for all my previous attempts had been vain.' We have here, then, a combination of two causes—external cold, and diminished respiration; without being able to distinguish the respective effects of each." 79.

The general conclusion to which Dr. Edwards arrives is, that hibernation is mainly to be attributed to a deficiency in the power of producing heat, in consequence of which they are incapacitated from resisting the external cold in Winter. It is very generally believed, that all other animals maintain a steady and uniform temperature during all seasons; but we shall find that this idea is not strictly correct; and in truth there is no strongly drawn line of demarcation between the hibernating, and many other families of the mammalia. Perhaps no part of Dr. Edwards' researches is more interesting than the discovery (supposing that future experimenters confirm his statements) of the influence of the seasons on the generation of animal heat. We have already seen that frogs, and other batrachia are capable of withstanding cold much more energetically in Winter than in Summer, and that this difference is in all probability attributable, to their bodies being then more powerfully calorific; the same holds good of the higher, or warm-blooded animals, including birds and the mammalia. Dr. Edwards, in the month of February, took five sparrows, and introduced them into a glass vessel, in which the air was cooled to the freezing point; they were kept in for three hours, and when examined by a thermometer, it was ascertained that the average loss of heat in that time was only 7° Fahr. The same experiment was performed in July, and at the end of the third hour, the average loss amounted to 10° Fahr.; in August, to $8\frac{3}{4}$° F.; it appears, therefore, that these sparrows did not resist the cold so well in the Summer as in the Winter; and we are led by analogy (for no direct experiments are detailed) to the belief, that it is a general law of animal existence, that the power of producing heat varies with the season; that it is at its minimum point in July, and at its maximum in January, or December. It is proper however, to mention, that we have been somewhat puzzled to understand,

how the power of "producing heat" can be at its minimum in the middle of Summer, if the actual temperature of the animal is discovered to be higher. Compare the following two passages;—at page 127, it is stated—"the power of producing heat is in Summer reduced to its minimum;" and at page 256, we are informed, that the averages of the temperature of sparrows and yellow-hammers ran progressively—

"From the depth of winter to the height of summer, within the limits of two or three degrees cent. The observation upon sparrows gave me the greatest difference. The average was in February 105° 4 Fahr.; in April 107° 6 Fahr.; in July 110° 78 Fahr. I afterwards noticed the contrary course in the decline of the year.

Hence I judged, that man also would experience variations of temperature under the influence of the seasons and of the change of climate, if not to the same extent, at least within appreciable limits. Dr. John Davy, on his return from Ceylon, informed me, that the temperature of the inhabitants of that island was higher than ours by one or two degrees of Fahrenheit, and that he had observed a similar change in the same individuals before their departure and after their arrival." 257.

We need a commentary on these passages; Dr. Marshall Hall would account for the greater energy which animals possess, during Winter, of resisting cold, by referring it to diminished irritability.

If we attend to the habits and instincts of animals we shall observe many curious illustrations of this law, and also of the remark which we made above, that there are many links of connexion between the strictly hibernating animals, and those whose temperature is most steady and uniform; thus, for instance, mice, if exposed to a moderate cold in Winter are surprisingly benumbed; hence their practice of making nests, for the sake of warmth. It is by no means improbable, that even different individuals of the same species, say, for example, of mankind, vary considerably in their powers of generating heat, and consequently of withstanding any great reductions of external temperature. Unwilling to leave this subject till we have put our readers in possession of whatever is interesting and valuable in the work before us, we shall now enquire, whether any mutual connexion can be traced between the production of heat and any other function of the animal system, before proceeding to treat of asphyxia and the modifications of respiration, by age, season, and so forth. According to the plan which we have hithero pursued, we shall propound some experimental data, and thence deduce our inferences. M. de Saissy brought a bat, which was profoundly torpid, and whose temperature was 39° F. into a room where the temperature of the air was only 28° F.; he irritated it mechanically, and left it; it awoke in an hour; thirty minutes after, its heat had risen to 59°, and in another half hour to 80°.

Again, a hedgehog, equally benumbed, and whose temperature was 37°, was treated in a similar way; it awoke in two hours, when the heat was found to be 54½°, and in an hour after 86°. Similar experiments were performed on dormice with similar results. If, instead of employing any mechanical stimulus to wake the animals, we merely expose them, while torpid, to a very considerable cold, the effects were nearly the same. A dormouse, whose heat was 39°, was placed in a window, exposed to a stream of very cold air, when the thermometer stood 7° below freezing; it awoke

in about an hour, and ran into its cage with agility; its temperature gradually rose to 97°. If the cold be continued too long, all the animals, viz. marmots, dormice, and hedgehogs, relapse into a fatal lethargy. What are the inferences to be drawn from these experiments? It is evident that the recovery of heat was not caused by the medium in which they were placed, since the temperature of the air was lower than that of their bodies, and that therefore it must have been a vital, not a mechanical process. It was observed, both by M. de Saissy, and by Dr. Edwards, that the respiratory movements were at first very feeble and scarcely perceptible, but increased progressively to the degree of rapidity and extent which they have, in the active state of existence; we may therefore presume that there is a mutual connexion and dependence of the two functions of respiration and production of animal heat. Having thus largely treated of some of the more interesting phenomena of the latter function, our next enquiry is to similarly investigate the former in warm-blooded animals. Dr. Edwards directs our attention in the first place, to the circumstance of different individuals of the same species, size, and age, requiring different quantities of air for the continuance of life in a given period; we shall state the experiments in his own words, to avoid all fallacy.

"I placed some sparrows, in every respect as much alike as possible, in vessels of the same form, and containing each a litre, or about a pint and three quarters of air, inverted over mercury. Still further to ensure equality, in the condition of the experiments, I performed them simultaneously, thereby avoiding differences in the temperature, pressure, and humidity of the air. In a great number of experiments, I ascertained that there was sometimes a considerable difference in the duration of life with the same quantity of air, and that the shortest and the longest duration might differ by one-third. The air, however, was altered nearly to the same degree by all, so that the duration of life was principally affected by the comparative rapidity in the consumption of oxygen." 93.

But not only do different individuals vary in this respect, but the same individuals, we have grounds to believe, at different ages. It is not easy, indeed, to experiment on the same animal at periods much remote from each other, but we may employ young and adult animals of the same species, and make allowances for differences of size. Dr. Edwards, acting on this view, took some young and some full-grown sparrows, and confined them in vessels which contained an equal quantity of air, and he found that the mean duration of the life of the former was more than 14 hours, while that of the latter did not exceed an hour and a half; a difference quite disproportionate to the difference in their bulks, and consequently in the capacity of their lungs; he therefore inferred, that a young sparrow vitiates proportionately less air than an adult one.

The experiments were repeated frequently on sparrows, having a less disparity in age and size; and the results proved to be always in accordance with the above law. Our readers will recollect that it has been already shewn, that young animals generate less heat than adults; and to this we may now add, that they consume less oxygen during respiration, even although their breathing be quicker, than in after age. Let us advance another step, and enquire, do different species of animals vitiate different quantities of air; or, in other words, do similar quantities of air support the

lives of different species, *cæteris paribus*, for different periods of time? Dr. Edwards placed in vessels, containing equal quantities of air, puppies a day or two old, and guinea-pigs about a fortnight old.

"The dogs were taken out at the end of four hours and fifty-nine minutes, and the Guinea pigs after an hour and forty-two minutes. By analysis of the air, the mean of the quantities of oxygen was found to be sensibly the same. Regarding only the difference of bulk, the consumption of air by the puppies ought to have been much more rapid, because they were larger, but when we recollect the fact previously established, that young puppies at birth produce much less heat than Guinea pigs, we see here the same relation to exist between the consumption of air and the production of heat, that we had determined in the case of the sparrows." 96.

Another important question remains:—Does the change of seasons occasion any modifications in the constitution of warm-blooded, as of cold-blooded animals; so that, supposing the quantity, temperature, and density of the air to be the same, it shall be consumed by them in different proportions at different periods? Analogy would lead us to answer it in the affirmative, and Dr. Edwards assures us that experiment proves it so. He found that, in January, six yellow-hammers lived in a certain quantity of air, of the temperature 68°, for 1 hour, 2½ minutes; and in August and September, every thing being alike, for 1 hour, 22 minutes. We need not relate more of the experiments, as they all lead to the same result, viz. that warm-blooded animals vitiate the air less quickly in Summer than in Winter; and our readers will, no doubt, recollect that it has been already shewn, that they also generate less heat; the seasons, therefore, it would seem, exert considerable influence on the function of respiration.

The analysis of Dr. Edwards' researches and opinions, which it has been our endeavour to exhibit in the preceding pages, cannot fail to attract the attentive study of all who feel an interest in animal physiology; it is beautiful to trace the mysteries of life through the different classes of animals, and it is, in truth, a pleasing reward to our labours, when we can arrive at the discovery of any simple, uniform, and all-pervading laws which regulate their functions. No one has worked more zealously and with greater success, in this field of enquiry, than our author; and as his researches are both original and important, we have felt a pleasure in widely developing them, for the benefit of all our professional brethren. We have not strictly followed the chapters and sections of the work in detail, as they have appeared to us to be frequently disjointed and confused, but have rather brought together, from the different parts, all such details as had reference to, and illustrated, the particular question under consideration. Several subjects of great interest still remain; and first is that of *Asphyxia* in warm-blooded animals.

So essentially necessary is the function of respiration, that it is well known that life is apparently extinguished in three or four minutes, if any adult animal, no matter however large or small, be deprived of air; we have said "apparently," because organic life continues after all external motion and sensation have ceased; but even this lasts only for a very short time longer, so that the apparent death of an animal so treated is scarcely short of the actual death. The chief object which Dr. Edwards had in view, in his

researches on asphyxia, was to endeavour to find out, whether the duration of life of warm-blooded animals, when immersed in water, is steady and uniform in all species, and at all seasons, and at every period of age; or whether it varies according to these varying circumstances and conditions, in the same manner as the power of producing heat has been found to do. From reasoning alone on the preceding details, we should expect certainly that considerable diversity would exist, for we have already discovered that warm-blooded animals do not consume the same quantity of air, and that they differ from each other, in this respect, according to varieties of constitution, of age, of species, and also according to the temperature of the atmosphere; analogy, therefore, might lead us to infer, that those animals which could live longest in a limited quantity of air, should be less speedily asphyxiated by drowning; and we shall now find that experiment confirms the analogy in most particulars. It is necessary to premise that, when it is said that some animals live longer than others under water, we allude to the retention of organic, and not of animal vitality; for Dr. Edwards, at page 133, distinctly states, that "it is remarkable all voluntary motion, and likewise sensation, are lost in a very short time, say three or four minutes, even in individuals which live the longest in asphyxia." A reader of the present work may very easily be misled, by the vague and indefinite language which is employed at different parts: thus, where it is stated at page 87, &c. that drowned animals gave signs of life for half an hour or longer, he might suppose that voluntary movements continued all this time; but such, he will now understand, is really not the meaning. With this explanation, we proceed to ascertain the different modifications of asphyxia, and first in respect of age. It is probably known to most, that the ingenious naturalist, Buffon, was led by some experiments to believe that many, and perhaps all, mammiferous animals might be made truly amphibious, if subjected, immediately after birth, to a peculiar management of alternate withdrawal from, and exposure to, the air.

"He placed a greyhound bitch of the largest species, when on the point of giving birth to young, in a tub of warm water, and secured her in such a manner, that she was obliged to bring them forth under water. These were afterwards for the sake of nourishment transferred to a smaller tub of warm milk, but without giving them time to breathe. They remained there for above half an hour, after which they were taken out and all found alive. They began to breathe, which they were allowed to do for half an hour, and were then again plunged in the milk, which had been warmed again in the meantime. There they remained for another half hour, and when they were again taken out, two were quite strong, and seemed not to have at all suffered. The third appeared drooping; but was carried to its mother, and soon recovered. The experiment was continued on the other two, they were allowed to breathe a second time for about an hour; and were then plunged once more in the warm milk for half an hour, after which they appeared as strong as before. However, being taken to their mother, one of them died the same day, whether by accident or from having suffered from the privation of air could not be ascertained. The other lived as well as the first, and both thrived as well as the other puppies produced after the bitch was removed from the water, and which had not undergone the ordeal."

"I have not," he says, "pursued these experiments further, but I have seen enough in them to persuade me that respiration is not so absolutely necessary to the new-born animal as to the adult, and that it might perhaps be possible, by proceeding carefully, to prevent,

by these means, the closure of the *foramen ovale*, and produce excellent divers; and species of amphibious animals, equally capable of living in air and in water." 135.

The facts are no doubt true—the inferences are certainly not. Buffon was not aware of the distinction of animal from organic life; he was not aware that, although vitality continued for a certain time, all voluntary, power and all consciousness had long been lost. As the puppies were in milk, he was prevented from seeing the phenomena which they presented—he was deceived by the facility with which they were restored to life. But it would be of little advantage to an animal intended for diving, merely to be able to remain a long time under water, if it had not the use of its senses and of voluntary motion all the while. M. Legallois performed numerous experiments of a similar nature as the above, and with like results: he found that rabbits, when just born, lived for about twenty eight minutes under water; when 5 days old, for 16; when 10 days old for $5\frac{1}{2}$; and when 15 days old, they appeared to have no superiority over the adult animal. Kittens also present similar phenomena; but all animals do not. Dr. Edwards found that a guinea-pig, at birth, when plunged in water, lived only three or four minutes longer than the adult; thus distinctly proving, that different species of young animals possess different powers of resisting asphyxia, and that those animals possess different powers of resisting asphyxia, and that those animals which generate most heat resist it most feebly, adding a fresh argument to the position which we have repeatedly declared, that the organic vitality is, *cæteris paribus*, inversely as the energy of the calorific function.

Of all the mammalia, the hibernating animals are those which can live longest without the contact of air; but this superiority exists only as long as they are torpid; for Dr. Edwards found that bats, in Summer, were asphyxiated by drowning as speedily as other animals; during their torpor, they may be kept in carbonic acid for upwards of four hours, without appearing to suffer from the experiment. Passing now to the modifications which differences of temperature exert on the slowness of asphyxia, the same general laws are discovered to be applicable here as on former occasions. Kittens, if drowned in water cooled to freezing, ceased to give signs of sensibility and motion in $4\frac{1}{2}$ minutes; if the water was 50°, in $10\frac{1}{2}$ minutes; if 68°, in $38\frac{3}{4}$ minutes; if 86°, in 29 minutes; if 104°, in $10\frac{1}{2}$ minutes. Similar experiments on puppies gave the same results. These observations of Dr. Edwards are most satisfactorily confirmed by the details of some experiments, which, it appears, Sir Astley Cooper performed on puppies and kittens, as far back as 1790. We shall select four of these, as they serve to illustrate this very interesting subject.

"EXPERIMENT I.—A young puppy was immersed in warm water, at about 120° Fahr. for one minute and a half. It struggled violently, and during the latter part of this time threw out the air from its lungs. It then remained still for another minute and a half, when its struggles were renewed, at which time it voided its excrement. These efforts were soon over. After remaining still for three minutes, it was put into another vessel containing water of the same temperature. In this it gasped twice or thrice. In ten minutes after its first immersion I opened it—a slight undulation was observable at the lower part of the right auricle of the heart, and there was some motion in the intestinal canal. The action of both ceased in about a minute, and could not be reproduced by the irritation of touching and piercing it. Thus, then, the action of the heart was destroyed eleven minutes after its first immersion.

EXPERIMENT II.—A puppy, of the same age as the last, was immersed in water, at about 56° Fahr. For one minute and a half its voluntary motions continued violent—it expired the air from the lungs, and then was quiet. At the end of another minute and a half its struggles were renewed. Its excretions passed off. For two or three minutes after it continued to gasp. It was then thrown into another vessel containing water of the same heat. It gasped at the end of every minute, and ten minutes after its first immersion it was opened. The heart acted vigorously, and there was strong peristaltic motion in the intestines. The action of the heart continued strong for nineteen minutes after it was opened, when it began to undulate—it undulated for four minutes, when all action ceased. At the end of twenty-nine minutes, then, the heart of this animal acted as strongly as that of the first, which died in ten minutes."

"EXPERIMENT V.—A kitten was put into cold water, and after about two minutes ceased to struggle. For some minutes after it had convulsive motions. Twelve minutes after it was immersed, its abdomen and thorax were opened. The heart was contracting, and the intestines moving. The heart continued to do so for half-an-hour.

EXPERIMENT VI.—A kitten was immersed in water heated to 100° Fahr. Its efforts seemed rather more violent than those of the other in the fifth experiment. Its convulsions were sooner discontinued. Twelve minutes after its immersion it was opened—no action could be observed, either in the heart or intestines, nor could it be produced by stimuli or irritation." 473.

To illustrate still further the subject of the influence of temperature on asphyxia, we shall detail an experiment of Dr. Edwards, from which it appears that, if the heat of an animal be reduced previously to immersing it in water, death is not so quickly induced. He took some young sparrows, in the month of May, when the thermometer stood at 61°, and cooled them artificially.

"One of them, which had, in half an hour, cooled from 35° cent. to 19° cent. or 95° to 66° Fahr. was afterwards warmed, and when he had regained his original heat was immersed in water; he lived in it eight minutes; now adults live only a minute and a few seconds. The other, whose temperature was only reduced to 26° cent. or 79° Fahr. was in like manner warmed again and immersed in water; he gave signs of life for only four minutes. Others, which lost little heat by exposure to the air, differed equally little from adults in the duration of life under water." 88.

Before quitting the theme of asphyxia, we wish to direct the reader's attention to one phenomena connected with it, viz. that of the continuance of the circulation when all sensibility and motion have ceased. Bichat was the first who fully illustrated the subject, and pointed out to us that the dark venous blood circulating in the arteries acted as a sedative on the nervous system, and, consequently, on the functions, among which is respiration, dependent upon it. He did not, however, ascertain whether the organic muscular life was kept up by the circulation of dark blood, for a longer time than when such circulation is prevented. Dr. Edwards had found that, in the case of the batrachia, the action of the nervous and muscular systems remained 20 hours longer under the former, than under the latter circumstances; he drowned some frogs whose hearts had been removed, and an equal number which had not been mutilated, in water of the same temperature; the results, in all cases, exhibited a marked difference in favour of the latter. Similar experiments were performed on kittens; and it appeared that, when the heart was excised, and the circulation thereby stopped,

drowning caused muscular death in a quarter of an hour; whereas, others, on whom no injury had been inflicted, gave signs of life for about half an hour. We cannot, therefore, now doubt that the circulation of venous blood contributes somewhat to maintain the life of all animals after the cessation of external motion, and during that state which we call apparent death. The duration of this latter state is affected by the temperature of the water in which the animal is immersed, and is shewn by the following experiments.

"Towards the end of December, the previous temperature having been very low, the hearts were taken from eight frogs. Four were placed in water at 68° Fahr., and four others in water at the freezing point. The first set lived on an average an hour and three minutes, the second eight hours and fifty-five minutes. Temperature, therefore, acts upon the frogs when circulation is destroyed, and which are, as it were, reduced to the exclusive action of the nervous system, in the same manner as in those whose circulation is in full activity. The hearts were cut out of three new-born kittens; one was put in water at 68° Fahr., another in water at 104° Fahr., and the third in water at 32° Fahr. The first lived thirteen minutes and thirty seconds; the second seven minutes; and the third five minutes. Now these animals lived only by the nervous and muscular systems, and if we compare the result of these experiments with those related in Part III. Chap. IV. performed on animals of the same species, whose circulation was not destroyed, and which were placed in the same circumstances, it will be seen that the temperature exercised upon both an analogous influence. For it was in water at 68° Fahr. that they lived the longest, much shorter at 104° F. and the shortest at 32° Fahr. Temperature, therefore, within these limits, exerts a direct influence on the vitality of the nervous system." 140.

The subject which next demands our attention, is that of perspiration. Our readers doubtless know, that to Sanctorius we are indebted for the original researches and experiments to determine the actual and proportional amount of this secretion. From numerous calculations he estimated, that five-eighths of our ingesta escape in the form of invisible transpiration. Dr. Edwards has pursued this enquiry with much diligence; he states that, if you keep an animal in any vessel, and compare its weight at intervals of two, six, or nine hours, you will find that there is a uniform and progressive diminution of the loss by perspiration; and that the amount of the loss varies exceedingly according as the atmosphere is dry or moist; in dry air, of a moderate temperature, the perspiration was ascertained to be six times greater than in humid air. This is, indeed, contrary to the vulgar opinion, which has arisen from observing, that there is generally an accumulation of moisture on the skin when the weather is damp; but the true cause of this is to be found, not in any increased perspiration, but in diminished evaporation. The quantity of perspiration is much influenced by a variety of contingencies, as, for example, 1st, by digestion. Sanctorius has asserted, that perspiration is very slight for three hours after a meal; but Keil, Dodart, and others, contradict it; and Dr. Edwards is inclined to believe that the quantity is scarcely at all affected. 2d. By sleep, which has generally the effect of increasing perspiration, both in health and disease; but this effect is modified, according as the stomach is idle or engaged. "Qui vacuo ventriculo it cubitum, eâ nocte tertiam partem minus more solito circiter perspirat;" and, "Horâ dormitionis meridionæ a cibo corpora aliquando libram aliquando selibram excrementorum occulte perspirabilium excernere solent," are two aphorisms of Sanctorius, and they are confirmed by the

experience of every one. 3d. By the dryness or humidity of the atmosphere, as already stated. 4th. By the motion, or rest of the air. Sanctorius and Gorter supposed that the perspiration was diminished by windy weather; but this conclusion was not the result of experiment but of conjecture, and is amply refuted by Dr. Edwards, who has found, that the motion of the air uniformly tends to increase insensible perspiration. 5th. By variations in the pressure of the atmosphere; the amount of perspiration being inversely as the pressure. 6th. By temperature; but here we must observe, that in all discussions on the subject of the functions of the skin, it is necessary that we should correctly and definitively distinguish insensible perspiration from sweating or transudation; the one is a physical, the other is a vital process; the one is regulated by the laws of evaporation, and is a consequence of that porosity of organized bodies, by which liquids, when near surfaces in contact with the air, diminish in quantity, by being converted into vapour, even though the pores be such as not to give passage to a single drop of fluid; the other is as much a secretion as the salivary, and the urinary discharges; whenever the one is increased, the other is diminished; and by keeping the law in remembrance, we shall readily be able to understand, how the insensible perspiration may be much augmented, and yet the skin be dry, and we shall have no difficulty in answering a question which has been started—"is perspiration susceptible of being suppressed?" in the negative. We cannot, in any circumstances, check the insensible and sensible perspiration at the same time; if the air be dry and cold, although the latter appears not, the former continues; and if, on the other hand, it be warm and moist, we know well, that sweat bursts out at every pore.

"We ought, therefore," says Dr. E. "to be careful how we take literally what we find in medical books respecting suppressed perspiration. There can be no such thing. That there may be suppression of sweat, is evident to every one; but it does not follow that even in these cases there is no transudation." 175.

On Absorption by the Skin. Although there has been much discrepancy of opinion upon this theme, authors have limited their examinations and experiments too much to one animal, or one set of animals, and have neglected others in the scale of creation, which, if explored, might have tended, most likely to have facilitated a correct determination of the question. Our readers will remember, that in the commencement of the review of Dr. Edwards' work, we alluded to some observations of the author, on the absorption of fluids by the skin, in frogs and fishes; the phenomena are too obvious to be gainsayed by any one, and the results may be even appreciated by an ordinary balance. As the subject is one of interest, we shall narrate an experiment which the Doctor performed on a lizard, whose skin is entirely scaly, and therefore very unfavourable to rapid absorption.

"It was exposed to the open air in order to remove it from the point of saturation and cause a sensible loss of weight. Perspiration in these animals being very slight, several days were allowed. It was then introduced into a tube and fastened by a fore and a hind foot. I then placed it in water so as to immerse only the tail, the hind legs, and the hinder part of the trunk. It was afterwards weighed at distant intervals, and found to have successively increased in weight, until it had supplied the loss incurred by perspiration in the

air. The experiment was then stopped. This absorption was not mere imbibition limited to the surface; the water penetrated deeper, and was distributed through the system. The body and the limbs had resumed their roundness and plumpness, and life, which would, ere long, have been extinguished in the air, as had happened to several other individuals, which were exposed at the same time, was prolonged by the liquid which absorption at the external surface had furnished to repair the loss which had been sustained." 182.

Dr. Edwards is a strong advocate in favour of the absorbing powers of the skin in all animals, and as he maintains that transudation goes on even when the body is immersed in water, he alludes to the very experiments which M. Seguin has brought forward to prove non-absorption, as confirmatory of his views. We regret that the experiments on which he founds the premises have not been detailed; whether this omission is chargeable to the author, or to his translators, we cannot say; but we should advise Dr. Hodgkin to revise Chap. VI. of Part I.; it is most inconclusive and unsatisfactory; the inferences appear to be drawn from vague assertion, not from exact observation. We shall, however, transcribe the following passage, as it displays the chain of reasoning employed by Dr. Edwards.

"If the diminution of the weight of a man plunged in a bath be exactly equal to the loss incurred by pulmonary perspiration, the absorption by the skin is equal to the transudation by the same organ.

The proportion, as quoted in the former chapter, from Lavoisier and Seguin, which pulmonary perspiration bears to general perspiration in the air, is 6° to 18°; in their second Memoir on Perspiration (Annales de Chim. vol. xc. p. 22.) they give it 7° to 18°. In the first series of experiments, in which Seguin compares the loss in water to that in air, he finds the proportion 6° 5′ to 17°. Hence it follows, that the loss in the bath did not exceed the pulmonary perspiration. No more is necessary to render this case an example of absorption, since we do not find in it the excess of loss which would result from cutaneous transudation. Seguin, however, infers from it the absence of both functions; and this explanation will equally account for the result; but his own researches oblige him to admit transudation in water at higher temperatures, although he maintains, that between the degrees of 54°·5′ and 72°.5′ Fahr. neither transudation nor absorption takes place." 183.

That transudation most assuredly takes place in water, which has been heated considerably, is proved by many; thus—

"Lemonnier, after staying eight minutes in a water bath at 45° cent. or 113° Fahr. lost twenty ounces, which is at least double that which Delaroche and Berger lost at the same temperature in a vapour-bath, and at a temperature of above 90° cent. or 194° Fahr. in dry air." 200.

And from many most cautious trials, the conclusion has been drawn by Dr. Edwards, that, other circumstances being equal, as regards the skin, "that state of air which has the greater heating power, will occasion the more copious sweating." Now, as steam has a greater capacity for caloric, than atmospheric air, a vapour bath of a given temperature will be more powerfully sudorific, than one of heated air; and reasoning by analogy, we infer, that a hot water bath will exert a still greater effect in *promoting* transudation.

On the Uniformity of Animal Heat. Although every professional man

is acquainted with the very extraordinary power which living bodies have of preserving their temperature nearly steady, yet we deem it may not be unacceptable to our readers to mention a few of the most striking examples. Duhamel relates, that a baker's daughter remained 12 minutes in an oven heated to about 264°, without much inconvenience. Blagden and Fordyce repeated the experiments, with like results. Delaroche and Berger extended their observations to the lower animals, and ascertained that the effects varied, not only with the temperature, but also with the state of the medium, as to dryness, or humidity.

"They introduced into a stove heated to 110° a cat, a rabbit, a pigeon, a yellow-hammer, and a large frog; the greater number at first remained undisturbed, but in about half an hour they became agitated and their respiration was progressively accelerated for about three quarters of an hour, until it became panting. There was then a remission of the symptoms in almost all the animals. They remained an hour and a half; when none of them came out in a natural state, but in half an hour or an hour they appeared perfectly recovered.

It would appear, from these experiments, that vertebrated animals exposed to a dry and hot air of 45° cent. or 112° Fahr. are near the limit at which they cannot long survive. Indeed, the same individuals, after having sensibly recovered from the effects of the previous heat, were introduced into a stove, the air of which, at first 56°·25′ cent. or 133°·25′ Fahr. arose towards the conclusion of the experiment to 65° cent. or 149° Fahr. All except the frog perished at various periods, from 24 minutes to 1 hour and 55 minutes." 192.

To ascertain the relative effects of heated watery vapour—

"M. Delaroche could not support, above ten minutes and a half, a vapour bath, which, at first, at 99°·5′ Fahr. rose, in eight minutes, to 124°·25′ Fahr. and afterwards fell one degree.

M. Berger was obliged in twelve minutes and a half to come out of a vapour bath, of which the temperature had risen from 106°·25 Fahr. to 128°·75 Fahr. He was weak and tottered on his legs, and was affected with vertigo. The weakness and thirst lasted the remainder of the day.

These gentlemen, however, supported for a considerably longer time, without much inconvenience, higher temperatures in dry air.

The peculiar sensation which resulted from the impression of heat was much more lively in the vapour bath, it was a sense of scalding. These experiments have been cited, because they are comparative, but not as indicating the extreme of heat, which man is capable of supporting in the vapour bath for that space of time. Joseph Acerbi relates, in his voyage to the North Cape, that the peasants of Finland can remain for above half an hour in a vapour bath, the temperature of which is raised to 158° or 167° Fahr." 194.

We need scarcely remark, that the heat of any liquid of the same temperature is still more insupportable. Dr. Edwards states—

"I have never seen batrachians which could live above two minutes in water, at 40° cent. or 104° Fahr. although I have taken the precaution of holding a part of the head out of the water, to allow the pulmonary respiration to continue; whilst individuals of the same species (frogs), have supported the heat of air charged with vapour at the same temperature above five hours.

Lemonnier, being at Barèges, plunged into the hottest spring, which was at 45° cent. or 113° Fahr. He could not remain in it above eight minutes. Violent agitation and giddiness forced him to come out." 194.

The assertion that living animal bodies preserve a uniform temperature, must be taken with some limitations; all experimenters agree that there is a

slight elevation when they are exposed to very high heat; and the general inference is, that "man and warm-blooded animals, under the influence of excessive heat in a dry air, may experience during life an elevation of bodily temperature, of from 12° to 14° F.—a higher degree they cannot bear." With respect to the cold-blooded vertebrata, it might be expected that, as the temperature of these animals differs no more than from one to three or four degrees from that of the external air, throughout the various seasons of the year, it would continue to exhibit a similar conformity in higher degrees of heat.

"In the experiments of Delaroche and Berger, the highest temperature attained, at the period of death, by individuals of this species placed in the stove, was 105°·67 Fahr. which is within the limits of the bodily temperature of warm-blooded animals." 197.

It has been much disputed, to what cause are we to refer the power of animals of resisting the heating effects of an elevated temperature. Franklin ascribed it to the cooling agency of evaporation from the skin; and this idea is most beautifully confirmed by the recent experiments of Delaroche, and Berger; they are so ingenious and novel, that we shall transcribe the detail of them at length.

"One of those porous vessels, called by the Spaniards alcarazas, which are susceptible of evaporation from the whole of their surface, was introduced by Delaroche and Berger into a stove, with two moistened sponges and a frog. The temperature of the vessel and of the sponges had been previously raised to that of warm-blooded animals, from 100°·6 Fahr. to 105 ·67 Fahr. The temperature of the stove varied between 126°·5 Fahr. and 142 ·25 Fahr. In a quarter of an hour, the vessel, the two sponges, and the animal, were nearly of the same temperature, not exceeding the limit of that of warm-blooded animals. They retained it pretty nearly two hours. This term is remarkable. In order to arrive at it, the vessel and the sponges, instead of being warmed, cooled about a degree; on the contrary, the temperature of the frog, which was at first 70°·25 Fahr. rose to 98·9 Fahr. in the space of fifteen minutes, and remained stationary for the rest of the time, maintaining itself, like the alcarazas and the sponges, at from 27° Fahr. to 38°·7 Fahr. below that of the surrounding medium.

A greater difference is observed, according as the external temperature is higher, but at the same time, the term at which that of evaporating bodies becomes nearly stationary is a little higher, in conformity with this increase of heat in the air.

If we suppose that as long as respiration is performed by an animal, especially a warm-blooded animal, it preserves the power of producing heat, a difference will thence be inferred between its temperature and that of an inanimate body with an evaporating surface, exposed to an excessive heat, although their point of departure should be the same. This conclusion is justified by the results of experiments made by Delaroche and Berger. The evaporation in a rabbit exposed to air from 144°·5 Fahr. to 189°·5 Fahr., judging by the diminution of its weight, was quite as great as that of the alcarazas; the final temperature, however, of the rabbit was superior by at least 4°·5 Fahr.

Thus the same general cause, viz., evaporation, would alone be sufficient to retain the temperature of animals and inorganized bodies below that of the external air, when the latter is excessive, that is, when it is above the bodily temperature of warm-blooded animals; but below this limit it would be incorrect to attribute to this cause, as is generally done, the real or supposed power of man and other warm-blooded animals, to maintain uniformity of temperature under the vicissitudes of seasons and climates." 201.

ON THE INFLUENCE OF LIGHT ON ANIMAL BODIES.

If frog-spawn be placed in water, excluded from the light, it is found that the developement of the tadpoles is either prevented altogether, or takes place most slowly and imperfectly. When, instead of the spawn, we try the same experiment on tadpoles themselves, the transformation from the state of fish to that of reptile is equally affected; most of the tadpoles do not undergo any change, even though they remain plump and increase in bulk, shewing that it is not from deficiency of nourishment, but from mere absence of light, and such as are transformed, acquire their adult structure much later than naturally occurs. It will be remembered that it was stated formerly, that when tadpoles were deprived of atmospheric air, by keeping them constantly under the surface of water, several of them passed from their larval to their perfect state; but, as others did not, it became an interesting question to ascertain which was the most potent obstructing agent, the exclusion of light, or the prevention of breathing? Dr. Edwards has no hesitation in stating, that light is much more necessary than respiration, and he alludes to many experiments in confirmation: he is even inclined to suppose that the almost unique occurrence of such an organization, viz. the presence both of lungs and of gills, as exists in the "Proteus anguiformis," may be dependent on the peculiar circumstances of its abode, which is the subterraneous lakes of Carniola, where the absence of light is superadded to the low temperature of the water. We alluded to this before, and need not, therefore, enlarge upon it.

ON THE ALTERATIONS IN THE AIR FROM RESPIRATION.

Dr. Edwards differs from many preceding authors in some particulars respecting the chemical changes which the air undergoes when inhaled into the chest. We shall allude briefly to them in succession. It has been much disputed whether the quantity of oxygen which disappears, is strictly equivalent to the amount contained in the carbonic acid formed. According to the researches of our author, it appears that there is a great variation in the proportions of oxygen which is absorbed, and of carbonic acid produced, according to the species of animal, age, season, and other particulars. In some experiments, the excess of the former was above one-third part of the latter; in others, it was so trifling as to be scarcely appreciable. If the conclusions of Dr. Edwards be hereafter confirmed, their importance will be most extensive and influential, not only as reconciling the discrepant statements of authors of acknowledged ability, but still more as developing a most curious and hitherto unexamined operation of vitality, which affects, perhaps, all functions, but more especially those of respiration and production of animal heat; we allude to the diversified modification of their phenomena, according to accessory and contingent circumstances. The next question which Dr. Edwards examines is, whether there is any change of quantity of azote in respired air. In a vast number of experiments on newborn puppies and guinea pigs, he ascertained that there is an increase in the quantity of this gas. The same results were obtained when the respiration of birds was tested. It is, however, to be kept in mind, that the quantity

varies exceedingly at different times and in different animals; and hence a long-continued and diversified train of research is necessary, before we can be authorised to propound any general assertions. So necessary is it to be on our guard, in all enquiries into the operations of life, that we shall frequently commit grievous errors, if we hazard even a single induction from a few experiments; there is an apt illustration of this in the topic which we are now considering; it has been stated, only a few lines above, that the quantity of azote was found augmented in respired air; now this holds true at one season, and not at another. From October to February, or thereabouts, Dr. Edwards discovered that there was, in reality, a diminution, and, consequently, an absorption of azote; his opinions are founded on a most extended suite of investigations on different animals. He says—

"If the difference between the inspired and expired azote had been quite irregular and confusedly scattered throughout the course of the experiments, no reliance could have been placed in them, but on the other hand, when we see these differences, however slight, constantly bearing for a considerable period in one direction, and then having an opposite tendency during an equal space of time, notwithstanding the identity of the mode of experiment, we cannot but conclude that a real change has taken place in the subject under investigation." 224.

Humboldt and Provençal, in their long series of experiments upon the respiration of fishes, have proved that these animals absorb a large quantity of azote. Spallanzani asserts the same of reptiles, and of many other animals. On the other hand, Bertholet, Nysten, and Dulong have most unequivocally found, on some occasions, an excess of this gas. How shall we reconcile these contrarieties? This is, perhaps, not so difficult as may at first be imagined; let us only suppose that there may be continually going on, in animal bodies, as absorption and an exhalation at the same time; and then the mere predominance of the one function over the other explains away all our difficulties. But let us proceed cautiously, and first ascertain whether any unequivocal mode of trial may be devised, to prove that azote is really exhaled from an animal:—Now all that we have to do, is to place an animal in an atmosphere of oxygen and hydrogen; Allen and Pepys acted on this plan, and they have most distinctly shewn that the exhalation of azote was frequently so great, as to exceed the bulk of the animal; and that there was also a considerable absorption of hydrogen. Here, says Dr. E. is a proof that two functions are performed at the same time, and is a key to the observation above made, that in different cases, according to diversified circumstances, we may find equality, excess, or diminution in the azote expired, when compared with that which has been inspired. As yet, we have not spoken of the probable manner in which the carbonic acid, which is thrown off from the lungs, is generated—whether it is evolved as a gaseous exhalation from the blood, or whether it results from the oxygen of the atmospheric air combining with free carbon, through the thin membranous coats of the vessels. A simple experiment determines this question:—If an animal be made to breathe a gas which does not contain any oxgen, and if more carbonic acid is found than can be accounted as being the residue which may exist in the lungs, at the time of subjecting the animal to the trial, we are forced to the conclusion, that the acid has been evolved in a gazeous form. Now let frogs (especially in Spring, when,

as we formerly shewed, their irritability, or organic vitality was most energetic,) be confined in vessels containing hydrogen, they will be found to live for 8½ hours, and upon examination the air will be found to contain carbonic acid in a much greater quantity than that of the lungs could hold. If this experiment be performed in the warm weather of Summer, or of Autumn, the frogs will not live above one half the time; another apt illustration of the doctrines previously unfolded. Similar results were obtained by introducing fishes (cyprinus aureus, or golden fish) into vessels containing pure hydrogen. Carbonic acid was readily detected; and Spallanzani's experiments assure us, that the same holds good of snails, and other mollusca. Dr. Edwards extended his observations to kittens, and other very young animals, and concludes that the principle is of universal application, and that the carbonic acid in expired air is due to exhalation, and that it proceeds wholly, or in part, from the blood. Vauquelin, Vogel, Brande, and Sir E. Home, have proved that it does exist in the mass of blood, and may be disengaged from it when the vessel which contains it is placed in hydrogen gas.

We have now brought to a close our analysis of the experimental researches of Dr. Edwards, on the influence of some of the most important physical agents on the life of man and other animals; but something still remains to be done; and we must enquire whether the additional and more exact knowledge we have obtained can be made available by the medical man in the prevention and cure of diseases. We are not, indeed, of that number, who estimate the value of physiological discoveries, *only* by their immediate and very obvious practical applicability; but would rather regard every step which is made in the investigation of the mysteries of living bodies, important, per se, as a fresh fact added to our knowledge, and also as tending to elucidate the working of the whole machine; if such be the case, it needs not the sagacity of a prophet to foretel, that just in proportion to the correctness of this knowledge must be our hopes of rectifying the machine when out of order, and of keeping it unharmed from losses and injuries. We have left ourselves little space for alluding to the application of the foregoing discoveries in detail; our remarks must therefore be brief and concentrated. Dr. Edwards is of opinion, that during natural sleep the faculty of generating heat is considerably impaired; and in this manner he explains the common observation, that a cold which is not inconvenient to us while awake, is hurtful if we are exposed to it during sleep, and how intermittent and other fevers so frequently arise in ships and camps from the night fogs. The following remark is exceedingly interesting, and offers a most ingenious hyphothesis on what are vulgarly denominated "trances."

"Natural sleep, in many species of hibernating animals, merits the denomination of *lethargic sleep*, from the remarkable diminution of temperature, respiration, and circulation, as well as of the external motions and excitability of the senses. It differs in intensity according to individuals and species. We have shewn the modification of the constitution which has the greatest influence in this respect; so that it will be easily imagined, that changes of this kind may take place in man, which will render his sleep lethargic, which state, however, is not to be confounded with the effect of disease or accident, such as privation of air or exposure to noxious gases. Instances of the lethargic sleep here alluded

to, are to be found in medical works, and are apt to be regarded as fabulous, but my own experience has convinced me, that such cases do occur." 248.

Dr. Edwards alludes to the propriety of clothing very young children more warmly than adults; their power of producing heat having been proved to be inferior. In some fevers, those which Torti has designated "febres intermittentes algidæ," this power appears to be so much weakened, that the patient dies in the cold stage, the system being unable to recover its loss of heat.

As a general rule, vapour baths are to be preferred to those of warm water, on the principle that the vivifying action of the air may be conjoined with the softening effects of the warmth on the skin. As a proof that the exclusion of the surface of the body from the contact of the air may be injurious, we need only refer to the cases of many persons experiencing a difficulty of breathing whenever they employ a warm water bath. The same reason explains the faintness which results from remaining too long in the bath; and it will be readily conceived that these effects will vary in different individuals, according as the pulmonary respiration has a greater or less extent.

The influence which rapid evaporation from the lungs and skin exerts on our feelings, is very strikingly exemplified in the reports of those who have ascended lofty mountains, or gone up in balloons; they almost always experience thirst, which is sometimes intolerable, even when it cannot be ascribed to the fatigue of exercise; it is only momentarily satisfied by large draughts of drink; but if the air becomes charged with moisture, this most painful symptom is at once relieved; the evaporation is lessened, and absorption goes on actively. The good effects of frequently sponging the skin, during fevers, and also at sea, when the supply of fresh water is scanty, are other proofs of the impotence of the cutaneous functions. Dr. Edwards remarks, that in many experiments in which animals were confined in rarified air, he observed that a disposition to vomit was induced. This accords with what we notice in dyspnœa from other causes. Whenever the respiration is impeded, as in acute or chronic pulmonary congestions, a disposition to vomiting is frequently induced; the community of the nervous supplies of the lungs and stomach may possibly account for this phenomenon. Whenever some persons enter a room, much heated in cold weather, they experience a painful sensation in the chest; this is chiefly attributable to the rapid evaporation from the surface of the air-cells; and the old custom of placing upon the stove a vessel containing water, is warranted by theory, as well as by practice.

We stated that children, who are born prematurely, have a very feeble power of producing heat; hence it becomes an object of great importance in attempting to rear such children, to compensate the deficiency by external means.

The researches of Dr. Edwards point out to us the importance of the skin as an accessory, and in some degree a vicarious organ of respiration: from being unencumbered with hair or feathers, in man, impressions made upon it are much more lively; and in this respect he has the advantage over all warm-blooded animals, even the hibernating; their skin is less accessible to the air; and hence no doubt the reason that an adult can seldom or never

be resuscitated, when all external motion has ceased by drowning. Man, on the contrary, whose skin is bare, delicate, and sensible, may be re-animated by the action of the air, when he appears to have lost under water sense and motion. A great error is frequently committed by medical men in their attempts to restore life, in cases of asphyxia; we have seen how very hurtful a too great and long-continued external heat and a confined respiration are, when the energies of life are faint and low. If momentarily and very suddenly applied, good effects may indeed be obtained; thus, the mere immersion of a new-born child in warm water, is frequently a most efficacious means of re-animating it; but, as soon as signs of returning irritability and feeling are shewn, or if they be very tardy in appearing, we had better desist from a method which, if too much prolonged, may be fatal. If an animal is plunged in water of 104° F. its movements are much more forcible, but less numerous, than at inferior temperatures.

While reflecting upon these remarks of Dr. Edwards, we have been induced to question, in our own minds, the propriety of a long-continued application of external heat, in the form of steam or heated air, in that disease which has so much baffled alike physiological speculation and therapeutic aid. In no member of the nosological catalogue, is there such a remarkable diminution of animal temperature as in cholera; the true explanation of it may be obscure; but we think that most will agree with us in partly, at least, referring it to the state of the blood. We have no intention of indulging farther in speculation, especially as we deem it not improbable that Dr. Edwards himself may have directed his attention to the disease in Paris; certainly no man is so well fitted to elucidate some of its mysteries.

In concluding our review of Dr. Edwards' researches, it must appear quite unnecessary to detain our readers with any long-drawn eulogy; we have already expressed our opinion of his high merits; and, after the perusal of the preceding pages, all will be fully enabled to form their own estimate. It has rarely fallen to our lot to analyze any book, containing more original and interesting observations; and, if a feeling of regret can mix itself with the pleasure of our labours, it has been, that a foreign country and a foreign language have had the honour of its parentage. The different sections of the book were presented, in the form of separate papers or essays, to the Royal Academy of Sciences at Paris, and obtained for the author, although a stranger, the honour of the physiological prizes. Would that a similar institution, conducted on similar principles of enlightened liberality, and directed by men of minds as free of the love of pelf, and of the bigotry of obsoletism, arose to add dignity and honor to our native land! But we fear that the heads of the profession, or rather, we should say, the autocrats of our different institutions, are not the beings from whom we can expect such good; and we must trust to that spirit of generous intelligence which begins to animate the great bulk of our medical brethren, for better days and nobler doings. It was acutely observed to us, by one whose high and varied talents may yet make his name revered by the profession, that monarchy may be the best government for a nation, but that, assuredly, it is a republic alone which science and literature can ever acknowledge. No; we can no longer endure the petty thraldom of pride and sycophancy. Shall it be said that in Britain, the land of civil liberty and enlightenment, where the path of distinction is as open to the humblest commoner as to the

proudest noble, a meaner bondage and a more galling despotism exist in the medical legislature, than is to be found at Petersburg or Constantinople? But the time is at hand, and a mighty change is awaiting us—for it has been well observed, that "the moment oppression passes one step beyond endurance, that step takes to liberty." May the day soon come, and may we have our Academy of Sciences, to foster and reward the professional talent of those, who now seek and find it elsewhere. Dr. Edwards probably felt that his labours would be better appreciated, and we may certainly add, more zealously examined, in Paris than in London; be this as it may, he has proved himself one of the most accomplished physiologists of modern times, and we trust that he may yet reap fresh and more distinguished laurels. His present work exhibits the most unwearied industry, and, at the same time, great penetration and ingenuity; he is quite an original thinker, and his mind is evidently stamped with the signet of true philosophy.

The success with which he has examined some of the most obscure phenomena of life, pointing out their association and harmony, and their conexion with some general laws, which seem to pervade and influence the vitality of animals, from the lowest to the highest—the admirable fitness of experiments, the ingenuity of their contrivance, and the skill of their execution—the strict and logical accuracy of most of his inductions, and the practical importance of many, fully warrant our high encomiums. Moreover, in addition to his own immediate discoveries, he has thrown much light on the researches of others, and has been enabled to reconcile most happily, the conflicting and discrepant views of different authors. There is so much sound truth and acute observation in the following passage, that we cannot refrain from directing the reader's attention to it.

"From one being accustomed to find a constancy in the phænomena of inorganic nature, and habituated to judge of the truth of the results of experiment by the possibility of our reproducing them at pleasure, we are led to seek with anxiety for the same character, in an order of facts which are necessarily variable. Hence the difficulty of obtaining general assent to the results of physiological experiments, which by their nature are precluded from offering that uniformity on which the mind reposes with confidence.

Convinced that different and even opposite results do not necessarily exclude each other, when vitality is concerned, I have always endeavoured so to vary my experiments, that I might reproduce some of the phænomena which appear contradictory in the works of other physiologists." 226.

To Dr. Hodgkin great praise is due, for the manner in which he has executed his task; but he might have rendered the work more saleable, and, therefore, more generally useful, had he shorn it of some extraneous matter. To introduce an inaugural thesis, and a juvenile essay, savours rather too much of what, in parliamentary language, is termed "adding a rider to a money bill," by which the Commons, as is well known, frequently manage to obtain the sanction of the Lords and King to a measure, by affixing it to any grant of supplies; and we regret it the more, because it has prevented him, we are told, from publishing the copious tables of Dr. Edwards, appended to each section, and in which the individual results of the very numerous experiments, and the conclusions to be drawn from them, were specially detailed. Surely the acquisition of these would have been more valuable than a Latin thesis on Absorption, various essays, on Atmospheric

Electricity, the Composition of Animal Fluids, the Uses of the Spleen, and so forth.

In the event of a second edition, or of an abridgement, we should suggest to Dr. Hodgkin several alterations. Instead of merely translating the original memoirs of Dr. Edwards, which were, as a matter of course, disjoined and frequently unconnected, they should have been all brought together and compared with each other, selecting whatever was novel and important, and rejecting whatever was superfluous, and had been already explained; much repetition would have been thus avoided, and much misplaced matter would have been made more available. For example, had the subject of respiration been treated of by itself, and its modifications traced in the various classes of animals, from the batrachia to the perfect mammalia, thus exhibiting how many differences there are in different animals, but yet how these very differences harmonize, and are referable to a simple and uniform law of function, we should have had a most interesting and instructive discourse, instead of being quickly led from one topic to another, whereby the mind is bewildered and confused; in short, had the various chapters been headed thus—"Respiration," "Production of Heat," "Asphyxia," and so forth, in place of their present titles—"Batrachian Animals," "Fishes and Reptiles," "Warm-blooded Animals," &c. &c. each would have been valuable separately, and in connexion with the others. As we have already said, we are aware that this arrangement arose from each individual chapter having been originally a distinct memoir, read to the Academy of Sciences; but the translator would have acted wisely, had he become an analyser and digester at the same time. It appears quite unnecessary to introduce, upon all occasions, reference both to Fahrenheit's and to the centrigrade thermometer, as any reader can at once convert the denominations of one into those of the other: considerable confusion has in consequence crept in, as when the term zero, at page 17, is used, the reader may very easily fall into the mistake of supposing that it alludes to 32 degrees below the point of freezing. The very opposite error is committed, in regard to the measurement, at page 292, for the French terms only are given, and no reference to the corresponding English ones. In many parts, the language is rather obscure and ungraceful, so that sentences here and there are nearly unintelligible. On the whole, however, the medical public is greatly indebted to Dr. Hodgkin for the present work; and, though susceptible of improvement, it ought to be well studied by every philosophical physician and surgeon.

II.

MEDICO-CHIRURGICAL TRANSACTIONS, PUBLISHED BY THE MEDICAL AND CHIRURGICAL SOCIETY OF LONDON. Volume the Seventh. 8vo. pp. 513. Two Lithographic Plates. London, 1832.

THE present volume of the Society's Transactions, though not so valuable as some of its predecessors, contains good papers, and offers on the whole a fair specimen of the present state of knowledge among the best informed members of our profession. When we state that in the array of contributors, are Mr. Brodie, Mr. Lawrence, Mr. Travers, Mr. Samuel Cooper, Mr. Langstaff, Mr. Cæsar Hawkins, Dr. Hodgkin, and Dr. Lee, we offer a tolerable guarantee for the quality of much of the matter. We think it highly desirable that this Society, or at all events, one of a similar kind, should be supported. It is a point d'appui for our best men, and the publication of its Transactions is calculated to benefit science, and maintain our professional character abroad. It would not be difficult to shew that the publication of such transactions is more calculated to attain the ends to which we have adverted, than the practice of sending communications to periodical journals. They appear so frequently, and contain matter of such various quality, that after some years it would become a terrific affair to refer to their many volumes and multitudinous pages for a particular paper. The Medico-Chirurgical Society is to us a sort of Amphictyonic Council, where the deputies from the various departments of our profession meet. It certainly is not to be compared to the Institute or Académie des Sciences, of France, but it serves as a substitute for such establishments, and we do believe that its decay would be a serious evil.

We shall proceed without further preface to notice as many of the papers as our limited space will permit. One of the most valuable, though, as usual, the least pretending, is from Mr. Brodie. The subject is abscess in the interior of the tibia. The communication is too brief and too concise to admit of much further abbreviation on our part, and we feel no regret at this, the paper displaying Mr. Brodie's characteristic method, precision and clearness.

"I am not aware," says Mr. Brodie, "that any cases exactly similar to those which I am about to relate have been recorded by authors: and as they appear to me to throw some light on the history and treatment of a rare but very serious disease, I am led to believe that they are not unworthy of being communicated to the Medical and Chirurgical Society." 239.

Case 1. Mr. P. æt. 24, consulted Mr. Brodie in October, 1824, under the following circumstances.

"There was a considerable enlargement of the lower extremity of the right tibia, extending to the distance of two or three inches from the ankle-joint. The integuments at this part were tense, and they adhered closely to the surface of the bone.

The patient complained of a constant pain referred to the enlarged bone and neighbouring parts. The pain was always sufficiently distressing; but he was also liable to more severe paroxysms in which his sufferings were described as most excruciating.

These paroxysms recurred at irregular intervals, confining him to his room for many successive days, and being attended with a considerable degree of constitutional disturbance. Mr. P. described the disease as having existed more than twevle years, and as having rendered his life miserable during the whole of that period.

In the course of this time he had been under the care of various surgeons, and various modes of treatment had been resorted to without any permanent advantage. The remedies which I prescribed for him were equally inefficacious. Finding himself without any prospect of being relieved by other means, he made up his mind to lose the limb by amputation; and Mr. Travers having seen him with me in consultation, and having concurred in the opinion, that this was the best course which could be pursued, the operation was performed accordingly." 240.

The patient died on the fifth day after the operation, with those nervous symptoms resembling delirium tremens, which we see occur occasionally after injuries or operations.

"On examining the amputated limb, it was found that a quantity of new bone had been deposited on the surface of the lower extremity of the tibia. This deposition of new bone was manifestly the result of inflammation of the periosteum at some former period. It was not less than one-third of an inch in thichness, and when the tibia was divided longitudinally with a saw, the line at which the new and old bone were united with each other, was distinctly to be seen.

The whole of the lower extremity of the tibia was harder and more compact than under ordinary circumstances, in consequence, as it appeared, of some deposit of bone in the cancellous structure, and in its centre, about one-third of an inch above the ankle, there was a cavity of the size of an ordinary walnut, filled with a dark-coloured pus. The bone immediately surrounding this cavity, was distinguished from that in the neighbourhood by its being of a whiter colour, and of a still harder texture, and the inner surface of the cavity presented an appearance of high vascularity. The ankle-joint was free from disease." 242.

This case made a strong impression on Mr. Brodie. It seemed evident to him that, had its nature been understood, and the pus locked up in the bone been let out by means of the trephine, the patient might have preserved both his limb and his life. In the course of two years another case presented itself.

Case 2. Mr. B. æt. 23, consulted Mr. Brodie in February, 1826.

"There was a considerable enlargement of the right tibia, beginning immediately below the knee, and extending downwards so as to occupy about one-third of the length of the bone.

Mr. B. complained of excessive pain, which disturbed his rest at night, and some parts of the swelling were tender to the touch. The knee itself was not swollen, and its motions were perfect.

He said that the disease had begun more than ten years ago, with a slight enlargement and pain in the upper extremity of the tibia; and that these symptoms had gradually increased up to the time of my being consulted. Various remedies had been employed, from which, however, he had derived little or no advantage." 243.

Mr. Brodie looked upon the case as one of chronic periostitis, and treated it as such by an incision through the periosteum, and the subsequent exhibition of sarsaparilla internally. The periosteum was found much thickened, and the new bone soft and vascular. The pain was immediately relieved, the wound gradually healed, and the patient was supposed to be

cured. But the enlargement of the upper end of the tibia never entirely subsided, and in August, 1827, pain returned in it. The pain gradually increased, and in January, 1828, Mr. Brodie was again consulted. The pain was constant, yet more severe at one time than another, and often preventing sleep for several successive nights—the enlargement of the tibia as great as ever—the skin tense and unnaturally adherent to the bone—the patient unable to follow his usual avocations. The resemblance to the former case struck Mr. Brodie; he proposed trephining the tibia, the patient consented, and in March, 1828, the operation was performed.

"My attention was directed to a spot about two inches below the knee, to which the pain was particularly referred. This part of the tibia was exposed by a crucial incision of the integuments. The periosteum now was not in the same state as at the time of the former operation. It was scarcely thicker than natural, and the bone beneath was hard and compact. A trephine of a middle size was applied, and a circle of bone was removed extending into the cancellous structure, but no abscess was discovered. I then, by means of a chisel, removed several other small portions of bone at the bottom of the cavity made by the trephine. As I was proceeding in this part of the operation the patient suddenly experienced a sensation, which he afterwards described as being similar to that which is produced by touching the cavity of a carious tooth, but much more severe, and immediately some dark-coloured pus was seen to issue slowly from the part to which the chisel had been last applied. This was absorbed by a sponge, so that the quantity of pus which escaped was not accurately measured, but it appeared to amount in all to about two drams. From this instant the peculiar pain belonging to the disease entirely ceased, and it has never returned. The patient experienced a good deal of pain, the consequence of the operation, for the first twenty-four hours, after which there was little or no suffering. The wound was dressed lightly to the bottom with lint. Nearly six months elapsed before it was completely cicatrized: but in about three months from the day of the operation, Mr. B. was enabled to walk about and attend to his usual occupations. He has continued well to the present time (January 7, 1832;) and the tibia is now reduced in size so as to be scarcely larger than that of the other leg. No exfoliation of bone has ever taken place." 246.

Case 3. In January, 1830, Mr. S. æt. 24, consulted Mr. Brodie.

"The lower extremity of the left tibia was considerably enlarged; the skin covering it was tense, and adhered closely to the parts below. The patient complained of a constant aching pain, which he referred to the enlarged bone. Once in two or three weeks there was an attack of pain more severe than usual, during which his sufferings were excruciating, lasting several hours, and sometimes one or two days, and rendering him altogether incapable of following his usual occupations. The pain was described as shooting and throbbing, worse during the night, and attended with such exquisite tenderness of the parts in the neighbourhood of the ankle that the slightest touch was intolerable.

Mr. S. said that, to the best of his recollection, the disease had begun eighteen years ago, in the following manner. On going to bed one evening he suddenly experienced a most acute pain in the inner ankle. On the following morning he was unable to put his foot to the ground, on account of the agony which every attempt to do so occasioned. Leeches were applied several times, and afterwards blisters, but the pain increased notwithstanding. After some weeks an abscess presented itself and broke. This was followed by some mitigation of the symptoms. Soon afterwards another abscess formed and broke in the neighbourhood of the first. The two abscesses remained open for a

considerable time, and then healed rapidly. Mr. S. now began to regain the use of the limb, and by degrees was able to walk as usual.

During the following summer he had a recurrence of pain in the inner ankle, without any further formation of abscess. For eight or ten years afterwards there were occasional attacks of pain, lasting one or two days at a time; the intervals between them being of various duration, and in one instance, not less than nine months. After this the attacks recurred more frequently, and during the whole of the last two years the symptoms were nearly as severe as at the time of my being consulted.

On examining the limb I was struck with the resemblance which it bore to that of the limb in each of the two preceding cases. There was also a remarkable resemblance in the symptoms as described by the patient, and I could not but suspect that they depended on a similar cause. I requested that Mr. Travers, who had attended one of the former cases with me, should be consulted: and he agreed with me in the opinion that probably an abscess existed in the centre of the tibia, and that it would be advisable to perforate the bone with a trephine, with the view of enabling the contents of the abscess to escape.

Accordingly I performed the operation, with the assistance of Mr. Travers, on the 31st of January. A crucial incision was made through the skin, the angles of which were raised so as to expose a part of the bone above the inner ankle, to which the pain was especially referred. A small trephine was then applied, and a circular portion of bone was removed extending into the cancellous structure. Other portions of bone were removed with a narrow chisel. At last about a dram of pus suddenly escaped and rose into the opening made by the trephine and chisel. On further examination a cavity was discovered from which the pus had flowed, capable of admitting the extremity of the finger. The inner surface of this cavity was exquisitely tender; the patient experiencing the most excruciating pain on the gentlest introduction of the probe into it." 248.

Soon after the operation some inflammation occurred, an abscess formed between the periosteum and the bone, and subsequently other abscesses presented themselves in the neighbourhood. But all healed favourably—the cavity made by the trephine became filled up—the wound gradually cicatrized—the pain formerly felt never re-appeared—and the patient was soon able to resume his former pursuits. He continues well.

It is singular that an affection of this nature, of which samples must have occurred in the practice of many surgeons, should now, for the first time, have been clearly described. In point of fact it has long been known that an abscess may occur in the medullary cavity, or the cancellated ends of long bones. In Mr. Bloomfield's "Chirurgical Cases," we find the following remarks on the spina ventosa, or as he chooses, with the quaint pedantry of his time to call it, "the abscessus in the medulla."

"It is universally allowed, that this disease takes its rise from matter being formed either in the *diploe*, or in the marrow; whenever obstruction is begun in the vessels expanded on, or terminating in, the medullary *cysts*, the consequence will be inflammation, and, if not early removed, will form matter; for this reason, I generally called this case *abscessus in medulla*. Whenever then a patient complains of a dull, heavy pain, deeply situated in the bone, possibly consequent to a violent blow received on the part some time before, and though at the time the patient complains of this uneasiness, within the bone, the integuments shall appear perfectly sound, and the bone itself not in the least injured, we have great reason to suspect an *abscessus* in the *medulla*. Children of a bad habit of body, though they have not suffered any external injury, will often become lame, and complain of the limb being remarkably heavy, and though not attended with acute pain, yet, the

dull, throbbing, uneasiness, is constant. If rigors happen during the time the patient labours under this indisposition, it generally implies that matter will be formed within the substance of the bone. On the age of the patient, and the solidity of the bone, will in a great measure depend the next alarming symptoms, to those who are not acquainted thoroughly with the case, and the constitution of the patient, as mothers and nurses are often inattentive to children on their first complaining of pain, and heaviness in a limb, if after rubbing it with their hand a few minutes, the child, amused by some new toy or playfellow, think himself easier, the good women, as they cannot see any thing wrong, determine it *a growing pain*, as they call it; but, soon after, the extremities of the bone formerly complained of, begin to swell, or, possibly throughout its whole extent, it becomes inlarged; a surgeon is then sent for, who, if a man of experience, will know this to be an *abscessus in medulla*, or true *spina ventosa*, as it is called: if neither of these symptoms should be consequent to the first complaint, the great insensibility of the bone in some subjects, will prevent that acuteness of pain usual in other parts, where matter is formed, though the acrid matter is eroding the bone during the whole time it is contained within it. This matter at length having made its way through, arrives at the *periosteum*, where it creates most violent pain, as well from its sharpness, as from its increased quantity, occasioning an extension of the membrane, which I declare *inelastic*. The integuments then become swelled and inflamed, and have a sort of emphysematous feel. On being examined, by pressure, the tumour will sometimes be lessened, from part of the matter retiring into the bone: from this appearance to the touch, most likely the name of *ventosa* was added to the term *spina*. When we are assured of matter being under *periosteum*, we cannot be too early in letting it out, as it will save a considerable deal of pain to the patient, though probably it may not be of any considerable advantage in respect to the carious bone; for, as I have more than once before observed, where the fluids in general are vitiated, no chance of cure can be expected from topical remedies, but where the constitution is mended, nature will sometimes astonish us in her part; as the carious bone will be thrown off from the *epiphyses*, or the *teredines* will be filled up by the ossific matter, that flows from the parts of the bone, where some of the *spinæ* have come away.

If proper medicines are given, the children well supported, and the parts kept clean and dry, *patience* and *perseverance* will frequently give great credit to the surgeon. And from my dislike to amputate, where the disorder is not *merely local*, I have had my proportion of honour *in perfecting a surprising cure*, without any farther pretensions to superior skill than what I have just related. In case it should have been thought advisable to apply the head of a *trephine* at the upper and lower extremeties of the *tibia*, to give free discharge to the matter, the washing *it* away, as well as the small crumblings of the carious bone, by means of detersive and drying injections, I have known to be greatly contributory to the curing this kind of *caries*, after the habit of body in general had been mended."

Though Mr. Bloomfield had nearly stumbled on the truth, it is evident that he has not hit it. He has mixed up in one description several diseases of bone, which modern investigation has distinguished. The surgeon who went into practice with Mr. Bloomfield's notions of an "abscessus in the medulla," and he who had perused Mr. Brodie's straight forward account of "some cases of chronic abscess in the tibia," would probably be practitioners of a very opposite sort. By the way this is no bad commentary on other remarks of Mr. Bloomfield, who, if we may venture to form an opinion from his writings, was possessed of no unphilosophical mind. In speaking of the benefits accruing from the establishment of hospitals, he uses the following expressions.

"Though under these advantages almost every operation in surgery has been so much improved, and so plainly taught, that, as it may seem to some men, scarce any thing further is to be expected, yet the experience of every day may convince us that there is still a large field to traverse, which has not yet been trodden."

This was in 1773. Could Mr. Bloomfield revisit his own hospital, (he was surgeon to St. George's,) he would see in the noble construction of the new building, the symbol of the improvements in surgery which himself had so sagaciously anticipated.

In Mr. Hey's remarks upon caries of the tibia, and the employment of the trephine for its removal, two cases are related in which there was abscess in the tibia. In both, however, the matter had made its way through the anterior lamella of the tibia by the process of ulceration, prior to the performance of the operation of trephining. It is curious that Mr. Hey, a practical man, reasoned very justly on the progress of the cases, and adopted a very sensible and successful operation for the cure of the disease, yet did not appear to suspect that in some instances it might be necessary or proper to perforate the tibia prior to the occurrence of any ulcerated opening. In Mr. Hey's cases the ulcerative action prevailed, in the cases related by Mr. Brodie the inflammatory process was limited to the deposition of new ossific matter, and consolidation of the cancellous tissue round the abscess. We have not at present by us the little work of Mr. Benjamin Bell on the diseases of bones. If our memory does not deceive us, that gentleman gives a plate of an abscess in the lower end of the tibia, walled in by new bone, as in Mr. Brodie's cases. We think too it is hinted that a perforation of the bone by the trephine would have been desirable, but nothing further is said. In short, we know of no satisfactory account of these chronic abscesses of the tibia with the exception of Mr. Brodie's, and we recommend a careful consideration of his cases to all practical surgeons.

II. SOME EXPERIMENTS ON THE USE OF STYPTICS IN HÆMORRHAGE FROM ARTERIES. By *Cæsar Hawkins*, Esq.

Some little time ago, MM. Talrich and Halmagrand arrived in this country from France with a styptic, the composition of which they kept secret, whilst they freely offered to display its effects. Previously to their arrival, their experiments and their conclusions had been noticed in the Parisian journals, and they brought with them a printed exposé of their views, the substance of a paper read by them, we believe, to the Academy. We took no notice of the styptic or its advocates at the time, because we could not consent to countenance the humbug, native or foreign, of a secret remedy. We witnessed some of the experiments performed by the gentlemen to whom we have alluded, and we can only say that on the whole they were more calculated to encourage suspicion of the remedy and its proposers, than to inspire much confidence in either. We say this with no wish to hurt the feelings or prejudice the interests of Messrs. Talrich and Halmagrand. We know that they are very ingenious and can readily believe them highly honourable, but they went the wrong way to work to establish their views, or remove all suspicion as to their motives.

Foreign surgeons are still much behind us in their treatment of wounds, and in their surgical management of arteries. We have only to cast our eyes over a few French journals, to be satisfied of this. MM. Talrich and Halmagrand were, therefore, unfortunate in coming to a country where sounder notions on the subject of hæmorrhage prevailed, and where some one would infallibly arise to point out any sophistry in which they might indulge, or errors into which they might fall. Such an one did arise, and Mr. Hawkins was he. When we say that the professor should be obliged to Mr. Hawkins for placing the matter in its proper light, for vindicating and confirming the views, and for directing attention to the experiments of Dr. Jones, we are sure we only echo a general sentiment. Mr. Hawkins observes that some persons were deceived who ought to have known better. Certainly some of our contemporaries were in too great a hurry to celebrate the renown of MM. the French experimentalists. As it is better to diffuse sound notions than unsound, we shall dedicate some of that space to the consideration of Mr. Hawkins' paper, which might have been less profitably devoted to the "false gods" of the Frenchmen.

"In most of Dr. Jones's experiments the free passage of the blood from the wounded artery was nearly, or completely, prevented by a continued suture in the skin, so that the blood necessarily forced its way into the cellular texture around, and there became coagulated; a method which he adopted from having found in some earlier experiments, that without this precaution the sudden loss of blood was generally fatal before the necessary clots could be formed. The mode in which, on the other hand, M. Halmagrand conducts his experiments is, to place three small tampons, or compresses of cotton dipped in his 'Liquide hæmostatique,' upon the wound of the artery, and retain them there for ten minutes with the fingers, after which a *single ligature* only through the skin is employed, which does not therefore close the wound, but merely prevents the compresses from being thrown out of the wound by muscular effort; a precaution which he has found necessary during the exertion of the animal to rise, and the omission of which occasioned fatal hæmorrhage in one of his experiments, at which I was present. This method I exactly imitated in the following experiments."

Experiment 1. "I exposed the carotid artery of a sheep, and made in it a longitudinal wound about half an inch in length, and placed upon the orifice compresses of tow, of the same size as those which I had seen employed by M. Halmagrand, dipped in a decoction of *Aleppo galls*, (one ounce having been boiled for ten minutes in three fourths of a pint of water,) and tied a single ligature in the skin before I withdrew my fingers from the wound. The animal was restless during the experiment, in consequence of which, perhaps, a small quantity of blood (about half an ounce) escaped when it rose from the ground, but none was lost subsequently. The compresses were taken away on the second day, and the sheep was killed on the tenth day by another experiment.

The wound in the artery was perfectly closed by lymph, without the formation of any coagulum in the vessel, which consequently remained pervious, the cicatrix itself being hardly perceptible. Some coagulum had formed externally along the course of the artery, in the same manner as it had taken place in one of the sheep in which M. Halmagrand had made a longitudinal wound and afterwards applied his styptic, killing it, however, on the fifth day. (See Preparation, No. 1."* 125.

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* There are no plates appended to Mr. Hawkins' paper. The preparations referred to are some very neatly put up in spirit, and preserved in the museum of St. George's Hospital. They fully bear out the text.

Experiment 2. M. Halmagrand laid bare the carotid artery of another sheep in his usual manner. Mr. Hawkins then divided the artery transversely to exactly half its circumference, the most fatal description of wound. Owing to a mistake on the part of M. Halmagrand, the animal lost a pint and a half of blood, and fainted. When it revived, the artery again began to bleed freely. Mr. Hawkins then placed on the artery the usual compresses, dipped in Ruspini's styptic, (a good quack medicine or application,) and held them for ten minutes, using a single ligature in the skin. No hæmorrhage followed, the compresses were removed at the same time as the first sheep, (that we were told was on the *second* day,) and the animal was killed by another experiment on the *eighth* day.

"There was some extravasation in the course of the vessel; the external wound, which was suppurating, communicated directly with the artery, which was completely blocked up by a firm coagulum, united by lymph to the interior of the vessel for about half an inch above and below the opening, connected on the side next to the heart with a loose coagulum two inches long. (See preparation No. 2.)" 126.

Experiment 3. Mr. Hawkins exposed the carotid artery of a sheep, cut out a circular portion of the vessel, and placed over the opening the usual compresses, dipped in plain water only. The animal was restless, and blood escaped several times during its struggles. After some time the compresses were removed, when the blood issued in as large a stream as at first. Fresh compresses, dipped in water, were applied and retained for ten minutes, the animal still struggling. When the pressure was relaxed, the vessel still bled (in a similar experiment M. Halmagrand was unsuccessful); Mr. Hawkins altered his plan, and united the skin by a coarse continued suture. As soon as the fingers were removed, the integuments were distended with blood, and some escaped between the loose stitches. The animal got up, there was no further hæmorrhage, and it was killed on the sixth day, the wound being then open, and suppurating. The interior of the vessel was blocked up by a portion projecting into the aperture—(*See* Preparation, No. 3.)

Experiment 4. "I exposed the right carotid artery of the sheep, in which the left carotid had been opened in Experiment II., and removed a portion with scissors, and then placed on the wound three compresses of the usual size dipped in *plain water*, and made pressure with the fingers for ten minutes, and then put a single ligature through the skin. The animal lay quiet during the experiment, and not a drop of blood was lost till the next day, when considerable hæmorrhage occurred, and this continued till the third day, when it died from the bleeding.

The wound of the soft parts was so small and direct that no extravasation had taken place in the sheath of the vessel, and no external coagulum had formed, so that the wound of the vessel remained opened. Within it a small recent coagulum only had formed, which nearly closed the end of the vessel nearest to the head, but left the lower orifice quite open. (See preparation No. 4.)" 128.

There was reason to believe that the animal disturbed the compresses by endeavouring to drink from a high pail.

Experiment 5. Mr. Hawkins exposed the left carotid, in the sheep which had been the subject of the first experiment, and placed a hook under the vessel. He then coarsely sewed up the wound in the skin by the continued suture, leaving room for the vessel to be drawn to the edge, and removed with the scissors a portion of the vessel, equal to nearly half its circumference. The hook was then withdrawn, the vessel allowed to recede, the ligature tightened, so as nearly to prevent the exit of the blood, which came through the wound copiously for a few seconds, and then ceased. No further hæmorrhage occurred till the third day, when some dropped from the wound, and continued to do so at intervals till the fourth day, when the animal died. The wound was much distended with coagulum, and suppuration was commencing—there was no plug around the opening, nor any sufficient clot in the interior of the artery.

"I should observe, that in all probability the last two experiments were performed under unfavourable circumstances, as the opposite carotid arteries had already been operated on, and in Experiment 4, the left carotid having been entirely obstructed by Experiment 2, only the vertebral arteries remained to convey blood to the head, so that probably the impulse through the right carotid became more powerful than it otherwise would have been; but, on the other hand, this very circumstance, which may have contributed to the unsuccessful result of Experiments 4 and 5, renders the success of Experiments 1 and 2 still more striking." 129.

The following are the conclusions drawn by Mr. Hawkins from the preceding experiments. They appear to be fully warranted by them, and fairly deducible from them. Yet there seems to be some obscurity about one inference drawn by Mr. Hawkins. He says that one experiment alone, viz. Exper. 4, was altogether unsuccessful, "the animal having, in this case, only died of the operation." In another place, he observes that "Experiments 3 and 5 shew, that when a portion of an artery has been altogether removed, the hæmorrhage may be restrained, and the vessel permanently closed, by allowing the blood to coagulate in the soft parts, as in a diffused aneurism." It may prove great stolidity on our part, but we must confess that we do not exactly perceive how Experiment 5 bears out this assertion. In that experiment, hæmorrhage occurred on the third day, and continued at intervals till the fourth, when the animal died. It does appear to us, that in this case the operation was the cause of death. The difference between this and the fourth experiment is merely a matter of time; for in Exper. 4, the hæmorrhage occurred on the day after the operation, and continued at intervals till the third, when the animal died. If one died from the operation, so, as it seems to us, did the other. How, again, can Experiment 5 be said to shew, that the vessel may be *permanently* closed after the removal of a portion of it, when, as we have shown, the animal died of hæmorrhage, and when, as Mr. Hawkins informs us, "the opening of the artery was undefended by any plug, neither was there any coagulum in the interior of the artery, sufficiently large to prevent hæmorrhage from either side?" These inferences from Experiment 5 do seem to be irreconcileable with a correct induction, and we point out the apparent inconsistencies, in order that Mr. Hawkins may clear them up, as no doubt he can. With this remark we subjoin the conclusions of Mr. Hawkins, as deserving of attention from those who would be possessed of accurate knowledge of the natural means of arresting hæmorrhage.

"It appears, then, that in all these varied experiments, the flow of blood was restrained for a time, the shortest period at which secondary hæmorrhage occurred having been twenty or twenty-four hours, and that in three of them the wound in the vessel was adequately closed to have prevented any further hæmorrhage. It appears, also, that out of *four* experiments performed in the same manner as M. Halmagrand's, but without the use of his styptic, *two*, viz. Experiments 1 and 2, were permanently successful, in one of them the artery being left pervious, in the other, being obliterated by coagulum; that a third, Experiment 3, failed at the time of the operation for want of sufficient coagulum in the vessel, to defend it after the compresses were loosened; and further, that Dr. Jones's method saved this animal after simple pressure had not succeeded; and that one only, viz. Experiment 4, was altogether unsuccessful, the animal having in this case only died of the operation.

The conclusions which I think may be legitimately drawn from these experiments, and from what I have seen of M. Halmagrand's, (and which are strengthened by the failure of the last two, since the reasons why they failed are plain,) are the following:

1st. Experiments 1, 2, and 4, demonstrate that pressure continued for ten minutes upon an injured artery, *in a nearly open wound* of the soft parts, by means of small compresses moistened in various liquids, may check the hæmorrhage from an artery in which a longitudinal or transverse wound has been made, or from which a portion has been removed. They thus prove an additional point to the facts ascertained by Dr. Jones, whose experiments upon partially divided arteries were made in *wounds closed by a continued suture.*

2dly. Experiments 3 and 5, shew that when a portion of an artery has been *altogether removed*, the hæmorrhage may be restrained, and the vessel permanently closed, by allowing the blood to coagulate in the soft parts, as in a diffused aneurism; Dr. Jones had previously proved this point with regard to several other kinds of wounds of arteries, but had not attempted this peculiar modification of injuries of vessels.

3rdly. Experiments 1, 2, and 4, prove that the means by which hæmorrhage is controlled, when pressure is made for a short time in an *open wound*, are the same which Dr. Jones's experiments had shewn to be exerted in a *closed wound*: viz. the formation of coagula, either in the lips of the wound of the vessel, or in the cavity of the artery, or in the cellular membrane around it, or in any two of these situations, or in all of them at once; except in some longitudinal wounds, which may occasionally be closed by the deposition of lymph alone, in which case the vessel may still remain pervious.

4thly. It is shewn further, that if coagulation takes place imperfectly, or if the clot is suddenly or violently disturbed, immediate hæmorrhage will occur.

In two of M. Halmagrand's experiments the compresses were probably thrown off thus by the exertions of the sheep, and the coagulum being consequently disturbed, both of them died. In Experiment 3, also, I could not obtain coagulation at all, the animal being so very restless on the table, and probably it would have died, had I not produced coagulation in a different way.

5thly. Experiments 4 and 5, shew that although the hæmorrhage may be controlled for a time, it may subsequently return at various periods from the causes pointed out in the last section as capable of producing immediate hæmorrhage. In Experiment 4, bleeding commenced about twenty or twenty-four hours after the injury, in Experiment 5 on the third day, and in one of M. Halmagrand's experiments at the London Hospital, described in the Medical Gazette, it did not occur till the fifth day after the wound. Dr. Jones's experiments also lead us to the same conclusion with regard to secondary hæmorrhage from wounded arteries.

6thly. It is probable that styptics applied to a bleeding artery can only be beneficial in two ways,—FIRST, by causing contraction of the coats of the bleeding artery. It is proved

however, by these experiments, as well as by Dr. Jones's and M. Halmagrand's, that whatever may be their effect upon *small* arteries, styptics scarcely induce any contraction of the coats of a *large* artery, and often none at all: but, that whatever may be the means employed to control the hæmorrhage, the formation of a clot, and the deposition of a lymph, are almost always necessary. Surgical experience, moreover, teaches us the same lesson with regard to partially divided arteries, although, no doubt, in cases where an artery is wholly divided, contraction is powerfully exerted to prevent loss of blood. Or, secondly, styptics may be of service by accelerating or promoting the coagulation of the blood. If, for instance, the decoction of galls, which was employed in the first experiment, be mixed with recent blood, it instantly produces coagulation, and such I am informed, is also the effect of MM. Talrich and Halmagrand's 'Liquide Hæmostatique;' but Ruspini's styptic, which was permanently successful in the second experiment, and which is often employed in practice with marked benefit, produces no coagulation, nor any other sensible effect on recent blood; neither, of course, does plain water, which was temporarily successful in Experiment 4, promote coagulation. If, then, pressure for a few minutes upon a wounded artery can permanently prevent hæmorrhage, when that pressure is made with compresses dipped in various fluids, which neither produce contraction of the artery, nor facilitate coagulation, we are justified in concluding, that if styptics *are* employed, the cessation of the hæmorrhage is to be ascribed principally, if not entirely, to the pressure, or at all events in a minor degree only to the action of the styptic.

7thly. These experiments further demonstrate that the effects of pressure with or without the use of styptics are precarious and uncertain, even in brutes, and therefore, *à fortiori*, ought not to be depended on in cases of wounded arteries in man, to the exclusion of the almost uniform success of the ligature, whenever its employment is practicable. And, in fact, every day's experience teaches us, in the most striking manner, the important lesson, which these and all other experiments on the subject corroborate, that wherever there is an external wound communicating directly with a large artery, although 1st, there may be complete cicatrization of the wound, and consequently further hæmorrhage; or 2dly, that a circumscribed false aneurism *may* be formed, (this may take place at least in man, though I am not aware that an aneurism has been ever formed in any experiments upon brutes,) which is capable of being cured by the common operation of tying the artery at some future time, at a distance from the wound; yet we cannot feel confident that either of these circumstances will ensue, but on the contrary, are obliged to entertain constant apprehension lest the barrier afforded by the internal or external coagula should give way, and, in the first place, when the wound in the skin has united, a diffused aneurism should be formed requiring a ligature above and below the aperture in the vessel, but accompanied with an extensive suppurating wound, which might have been avoided if the vessel had been tied in the first instance; or, in the second place, if the skin has not united, then we cannot but feel constant anxiety lest our patient be destroyed by a sudden gush of blood, or, as more frequently happens, be worn out by irritation and by loss of blood, from the no less fatal influence of frequently repeated smaller hæmorrhage.

8thly. But lastly, while I deprecate most strongly any reliance on the use of styptics in wounds of *large* arteries, I do not deny that they may sometimes be of service as *auxiliaries* in the case of hæmorrhage from *smaller* vessels; and if further experience shall prove that the 'Liquide Hæmostatique' of MM. Talrich and Halmagrand is really superior in this respect to other styptics, I shall have as much pleasure in acknowledging the fact, as I have in ascribing to their distinguished countryman, Paré, the revival of the still greater security against hæmorrhage afforded by the ligature." 135.

III. ON THE PHENOMENA AND APPEARANCES FROM PARTIAL OBSTRUCTION IN THE CEREBRAL CIRCULATION. By *John Howship*, Esq.

Mr. Howship introduces two cases to the Society's notice, with the following remarks.

"The notes from which this present paper is taken, regard two cases that fell under my notice. In the first are seen the symptoms during life, and appearances after death, peculiar to inflammation of the large veins upon the pia mater; in the second may be observed the inconvenience occasioned by the pressure of a large tumour, so situated as to prevent the free return of venous blood from the affected side of the head; and in both are shewn the consequences induced by a partial obstruction to the flow of blood through the brain. In the one I shall demonstrate a particular appearance in the medullary substance of the brain, which although more than once previously met with, I had not before been able satisfactory to explain; and in the other, we shall have occasion to remark (and that to a very curious extent) the extraordinary powers a large artery may sometimes acquire and exert in a very infirm constitution, when labouring to drive forward the blood through the round of an impeded circulation. 424.

Case 1. J. E. a dissolute young woman, miscarried on May 17th, 1830. On the 21st she was brought into the St. George's Infirmary. On the following day and night she was very languid—had no pain—had some thirst with quick pulse—slight stupor. This, with difficulty of articulation, gradually increased, so that for several days before she died she was quite unable to speak. During her illness she frequently moaned aloud—wanted brandy and gin, to which she had been accustomed—had slight tremors and occasional subsultus. For some days before her death the right side was paralytic, and she passed her stools involuntarily. She died on the 29th, and was examined by Mr. Howship on the 30th.

Dissection. On reflecting the dura mater, an appearance of thickening and opacity was seen on the right hemisphere, from inflammation of one of the large veins. Every part of the pia mater from which blood was collected by the branches of this vein was red from inflammation, and had specks of blood effused into its fine cellular texture. The cortical and medullary substance of that hemisphere were healthy, yet exhibited the peculiar appearance of every capillary within a given space being enlarged to three or four times its natural diameter. On the left hemisphere two or three of the large veins had become inflamed, and there were small effusions of blood in minute masses between the pia mater and brain. On cutting in the cerebral substance, the congested capillaries had apparently ruptured, depositing within the medullary substance small coagula, a few grains each in weight. There was nothing unnatural in the thorax or abdomen.

"OBSERVATIONS.—The above appearances may be regarded, I conceive, as demonstrative of the effects induced by congestion, affecting a part of the brain, from inflammation and obstruction in the trunk of the corresponding vein. The more extensively diffused effects of general congestion upon the surface, or within the substance of the brain, proceeding from various causes, have been frequently enough observed; but the more partial consequences incident to obstruction, of one or two only of the superficial veins, have been less correctly noticed.

I have presented two portions of the left hemisphere of the cerebrum, which exhibit these appearances very distinctly." 427.

Case 2. In December 1818, Mrs. J. then aged 77, consulted Mr. Howship for a tumor in the neck, which appeared to be an enlargement of the right lobe of the thyroid gland. The swelling had commenced at the age of 25. Mr. Howship tried the burnt sponge, but it so disturbed the pulse and nervous system that it was of necessity abandoned. In June 1825, Mr. H. was again consulted. The lady was then subject to paroxysms of convulsive cough, orthopnœa, and great languor. The tumor was now of the size of a small melon. The right carotid artery pushed outwards by the tumor, pulsated, as did all the arteries on that side of the neck, with considerable activity. In 1828, there was superadded difficulty of swallowing, and more dyspnœa. In 1830, Mr. Howship found the right carotid beating with extraordinary force and activity, the coats apparently thickened, and the diameter of the vessel increased. The trachea and larynx were pressed to the left side. On the 18th April, 1831, she was attacked with giddiness and loss of memory; in the night she lost sensation and motion in her left side and extremities. By leeching and cathartics she was relieved, but early in the morning of the 19th she died.

"*Dissection.* In the head, between the arachnoid membrane and pia mater, there was a considerable serous effusion, most conspicuous over the right hemisphere. On gently separating the hemispheres, the corpus callosum was apparently tense; and about ʒiiss. of serum were found in the ventricles; the septum lucidum being expanded and thin. The substance of the corpus callosum towards its right margin, was somewhat softer than natural; the medullary matter cut into, being found to contain several cavities or small spaces within its substance, filled with serous fluid.

I removed the tumour from the neck; and on subsequent examination found the internal jugular vein, in company with the artery, passing round the tumour; it was now also ascertained by measurement, that although the right carotid artery was very much larger and thicker, it was not materially longer than the left; a circumstance explained by the unusual length of the arteria innominata, in this instance.

It was pretty evident that the tumour itself contained some fluid; but desirous to preserve its figure entire, I preferred immersing it in rectified spirit, without making any division of its substance, in which state it is, therefore, now put up." 432.

There were some other unimportant appearances in the abdomen. Let us hear what Mr. Howship has to say upon the case.

"Observations.—The protracted continuance of the disease in the above case presents only that character with which we are sufficiently familiar. It is not, however, common to see the trunk of the carotid artery so displaced, as to be found directly beneath the integuments of the neck, and apparently extended so as to occupy nearly half the circumference of a large tumour. But the most unusual circumstances, perhaps, are the very peculiar increase in the size and strength of that vessel, and most especially the extreme force with which it laboured to overcome the difficulties with which it had to struggle. In these last particulars, this case affords a very rare example in illustration of a principle laid down by the late Mr. Hunter, who disposes all muscular parts to acquire increased strength and power, equivalent to any incidental difficulty or embarrassment that may arise in the performance of their functions, from the inroads of disease." 433.

We do not conceive it an uncommon thing to see arteries, large or small, that supply growing tumors, become enlarged. Perhaps it is rare to find the carotid so much affected as in this instance. Neither do we see aught very strange in the serous effusion of the brain. It is rather to be regretted that Mr. Howship did not particularize the condition of the inflamed veins in the first case. On the whole, we confess that we do not derive any great information from the cases, but that may be our own misfortune or fault.

IV. Case of Ovarian Disease, complicated with Pregnancy. By *Thomas Hewlett*, Esq.

This is a long but extremely interesting case. We will abbreviate it as much as possible.

A lady, æt. 36, who had borne six children without difficulty, being now in her seventh month of pregnancy, sent for Mr. H. on the 25th of August last. She had pains returning at intervals. He discovered on examination a tumour occupying the hollow of the sacrum, and allowing a little more than a finger to pass between it and the pubes; he could feel no os uteri, and there was no discharge. He drew blood, and ordered an aperient. The pains returned in three days, bore a uterine character, and were only controlled by opiates. Mr. H. was undecided, and, the constitution sympathising, Dr. Locock was called in on the 21st September.

"After a very patient and careful examination per vaginam, he thought he could reach a *segment* of the os uteri high up above the pubis. With regard to the swelling, we both agreed that it bore more resemblance to an ovarian tumour than what I at first thought it was, viz. a partially retroverted uterus. On passing the hand over the abdomen, the boundary of the womb could be distinctly traced; and in the left hypochondriac region, distinct from uterus, a hard unyielding substance, apparently floating in fluid, could be plainly felt. This Dr. Locock at once pronounced ovarian." 228.

The legs were œdematous. Saline purgatives, quiet, opiates, and puncturing of the legs were resorted to with relief. On the 6th October the pains returned with difficulty of voiding urine. No os uteri could be found. On the 7th, Drs. Locock and Merriman arrived. The latter reached with difficulty what he believed to be a *part* of the os uteri, and the extremity of the finger brought away with it a small quantity of dirty-looking secretion. He was inclined to think the case one of partial retroversion, and recommended opiates, &c. with the hope of getting the lady to her full time. The sickness was now distressing, the breathing oppressed, the lower limbs distended. The motions of the fœtus ceased on the 8th. On this, the 9th, and 10th, she had a slight discharge, such as had appeared on Dr. M.'s finger; on the 12th the discharge was purulent. Examination shewed little difference. On the evening of the 11th the pains were severe; next morning they ceased, and a large discharge of liquor amnii followed, without perceptible alteration of the parts. At 10, p. m., uterine pains returned—in the morning of the 13th she had the regular grinding pains of labour—they increased till the evening—at 7, p. m., there was not the smallest alteration of the parts, no os uteri perceptible, no mobility of the tumor. At half-past seven there was a different kind of pain—on attempting to introduce

the catheter, there was a new and unusual difficulty. When the water was drawn off Dr. Locock again examined. He announced that the head was fast descending. The improvement had taken place between 7, p. m. and 8, p. m. At 10, p. m. the fœtus was expelled, and immediately afterwards the placenta; the child was putrid; the bones of the head broken up. The tumor was now discovered on the right side, as before delivery, and the left ovarian tumor, which could be distinctly felt, had descended in the abdomen.

In the evening after delivery the abdomen was found as large as ever, partly from an accumulation of fluid, chiefly from a large tumor occupying the whole left side of the abdomen. Purgatives and salines were given, and little alteration occurred till the 17th. There were then what the patient called after-pains, some dyspnœa, some increase of size in the abdomen. At 2, a. m. of the 18th, more dyspnœa, pain in the hypogastrium, sickness, fever. She was bled and had an opium suppository. The blood was buffed and cupped, and though a temporary alteration was obtained, it was thought necessary to repeat the bleeding, with again some relief. Circumference of the abdomen 38 inches.

She passed a very bad night, the symptoms continuing. On the 19th the abdomen measured 41 inches, and, to give relief, Mr. H. drew off with the trocar the abdominal fluid, amounting to five pints and a half of serum. She was relieved, but only for a time. The sickness and other symptoms returned; hydrocyanic acid mitigated the former. On the 22d the symptoms were lulled, but the calm was that preceding dissolution. She became insensible, and in the morning of the 23d she died.

Dissection. "The body was examined seven hours after death, before decomposition could have effected any change in the appearance of diseased parts. The upper part of the body was much emaciated. The lower extremities œdematous. On turning back the abdominal parietes, a large solid diseased mass, having a *fungoid appearance*, and lying on the left side, presented itself. On tracing this, it was found to be the left ovary, lying in the left iliac fossa and ascending to the diaphragm, having that form of disease termed by Dr. Seymour 'malignant tumour of rapid growth.' On the right side, and lying in the pelvis, was the other ovary affected with the same disease, and forming the tumour which was felt before, and so much obstructed, the birth of the child: it entirely filled the hollow, and was very firmly attached to the bones of the pelvis. To the front, and resting on the tumour, was the uterus, being free from disease; behind which, and between the ovaries, was a portion of intestine very dark in appearance, being, as it were, strangulated by the pressure of the morbid growth. The intestines in the neighbourhood of the tumour, bore marks of inflammation, in some parts severe. The pyloric end of the stomach was thickened, and in a state of scirrhus; the pancreatic glands much enlarged and indurated; the liver healthy in appearance; the gall-bladder distended, and having in it a single calculus: the kidneys very much enlarged, the substance of each containing ill-formed pus of a strumous character. The ureters enormously dilated, each admitting, with facility, the tip of the little finger; this appearance being readily accounted for by the pressure of the tumours, and consequent detention of the urine in its passage to the bladder; the bladder healthy, and containing about two ounces of urine. There were about two pints of serum in the cavity of the abdomen; the left side of the chest contained about four ounces of serum; the heart, large vessels, and lungs being healthy. The head was not examined.

It is an interesting and important fact, in relation to the growth of the tumours, that I had attended this lady in two previous confinements, the last of which took place just eighteen months previous to the present one, and that on neither occasion was there any symptom to warrant the supposition that the ovaries were diseased, her 'getting up' from each being uninterruptedly good. Her health also, during the first seven months of her recent pregnancy, was unusually good; although, from watching at the sick bed of her mother, and other circumstances, she had had much to try it. It was observed, however, by her friends and herself, that she was larger for the period than she had ever been before. The weight of the preparation was estimated at about seventeen or eighteen pounds." 238.

This is certainly an interesting and instructive case. It occupies 13 pages of the Society's volume; our readers will find all the points in two. The obstetrical deductions appear to us to be simple, and such cases are only valuable as facts to be remembered in future difficulties. Such facts, when published, become the experience of the many—when confined to the man who sees them, they form the experience, and they contribute to the professional sagacity, of the individual. It is well to treasure up the recollection of difficulties past, in order that their solution may be applied to the analysis of difficulties to come.

There is one pathological circumstance not unworthy of attention. The urine was prevented from getting with facility into the bladder, or with freedom out of it, by the pressure of the pelvic tumour. The ureters became dilated, the kidneys enlarged, the urine retained in them. This is what occurs in cases of old stricture of the urethra, and, accordingly, we find the same state of kidney—"pus of a strumous character in its substance." In cases of old stricture, nothing is more common than to find the kidneys occupied with many small abscesses, containing pus of the character mentioned. It is also common to call these strumous abscesses of the kidney. The pus resembles in appearance that found in the pulmonary tubercles, in the stage of softening, and there, so far as we can see, the analogy between such an affection of the kidney and scrofula ceases. The disease appears to be clearly the result of mechanical obstruction to the flow of urine. The kidneys are loaded, impeded in their function; that is demonstrable. They then become irritated, fall into a state of chronic inflammation, become unnaturally vascular, and subsequently studded with partial formations of pus. Chronic inflammation is probably the cause of these, but whether it be or be not, chronic inflammation accompanies them. We refer our readers to the valuable remarks of Mr. Brodie on calculous diseases.

The shorter remaining papers in the volume before us will be noticed in the Periscope of our present number; the longer must be deferred till our next.

III.

Recherches Physiologiques et Médicales sur les Causes, les Symptomes, et le Traitement de la Gravelle. Par *F. Majendie.* 2d edit. 1828, p. 151.

Of all animal products the urine perhaps has attracted the most attention, not only on account of the facility with which it is subjected to examination, but also from its connexion with diseases, a fact recognized by the earliest medical writers. To the more scientific analysis of this fluid by modern animal chemists must be attributed the beneficial changes which have been produced in the treatment of its disease; proving the benefits which result from the attentive study of animal chemistry, as well as the necessity of an accurate knowledge of this branch of medical science to the practitioner. The physician is as well acquainted with the composition of gall-stones, as with that of the various urinary concretions; and why should he not be as able to prevent the formation of cholesterine as of uric acid? This is owing in great measure to his ignorance of the chemical changes produced in the bile by disease; his knowledge of that secretion is almost wholly confined to its healthy state, for the analysis is made of the contents of the gall-bladder removed after death; in practice he is content with observing the colour alone of the excrement which is tinged by this fluid, and thus his examination is confined to the most unimportant part—the colouring principle. The difficulties which oppose the examination of the pathological condition of bile are probably insurmountable, and unless the animal chemist had the unwearied patience of Swift's philosopher of Laputa, who spent his whole life in endeavouring to extract from fæces their nutritive principles, it is to be feared that our knowledge of bile, will, for at least a long period, be confined to its normal state. The attempts of the older writers to account for the formation of urinary concretions were generally as ridiculous in theory, as they were useless in practice. Hippocrates imagined that the neck of the bladder became inflamed, and refused exit to all but the thinnest part of the retained urine, whilst the thickest subsided forming calculi. Paracelsus believed them to be produced by an animal resin hardened by the spirit of urine! Even Van Helmont, in the 17th century, who was most inclined to explain the phenomena of health and of disease by chemical laws, compared the formation of gravel to the deposition of tartar from urine. Scheele, in 1776, was the first who discovered the true nature of urinary concretions, he proved that they were most frequently formed by a particular acid which he named lithic, and which he recognized as one of the ingredients of healthy urine. Fourcroy and Vauquelin, in France, Wollaston, Marcet, Proust, Brande and Prout in our country, have since confirmed the discoveries of the Swedish chemist, and added much to our knowledge of both the healthy and morbid principles of the urine. M. Majendie has in the work before us applied some of his physiological discoveries to actual practice, and has endeavoured to explain in what manner various foods act in producing depositions in the urine. It has been too much the fashion in this country to attribute almost invariably the various forms of sand or gravel to indigestion: M. Majendie has explained in a

much more satisfactory manner the action of animal food, and of all those articles of diet which contain nitrogen; he candidly confesses his inability to explain many causes of gravel which are not comprehended in this class, but he falls into an opposite error by denying that a disordered secretion of urine can be produced by a disordered state of that organ which prepares the pabulum for the kidneys themselves. We shall give a careful analysis of this work, which is the only one which M. Majendie has published as a practical physician; his reputation as a physiologist alone would command attention to a subject so closely related to his chief pursuits. It embraces the causes, symptoms, and treatment of gravel. When a person discharges habitually or at intervals with his urine, a sand, most frequently of a reddish colour, or small stones, of various forms, colour, and size, he is attacked with gravel. It is a disease more particularly of middle and of old age, those who are fond of the pleasures of the table, and who take little exercise are most subject to it. In some cases there is little inconvenience or pain except at the moment of expulsion, when there is slight ardor urinæ, but usually there is general indisposition, often fever, acute pains in the lumbar region and in the course of the ureters, suppression of urine, a copious flow of blood per urethram, want of sleep, disturbance of all the functions; these symptoms last many days, and do not entirely cease until after the expulsion of one or more gravel stones. If such fits of gravel are frequent or constant it is not only a painful disease, but one likely to shorten life. It is but the first stage of many very intractable diseases, as stone in the pelvis of the kidney, or in the bladder, for which lithotomy or lithotrity are mere palliatives as the cause remains. When this disease is prolonged it may produce nephritis, retention of urine, abscess, urinary fistulæ, hematuria, &c.

On the Formation of Gravel.

Urine consists of water holding in solution a certain number of different substances which have a greater or less tendency to leave the liquid in which they are dissolved, and to precipitate themselves under various forms. Sand, gravel, small calculi, &c. are substances which the urine had held in solution, and which are precipitated within the urinary passages. Sand and gravel differ in many important particulars. 1. In size: they vary from a small hazel-nut to the finest dust. 2. In form: some gravel stones are polished spheres; others are pyriform, with their surface smooth or rough; others are angular fragments, evidently detached from larger calculi in the bladder, of which they have formed one of the concentric layers, most frequently they are isolated, and are expelled successively; in a few cases they have been connected by hairs. 3. In colour: generally a yellow red; sometimes a yellowish white, or a cindery grey; very rarely a deep brown or almost black. 4. In consistence. In some instances they are extremely hard, in others they crumble beneath the slightest pressure. 5. In opacity or transparency. M. Majendie found in one case transparent gravel, with this exception, it is opaque.

Chemical Composition of Gravel. 1. It is most frequently composed of uric acid united to a small quantity of animal matter. 2. Of the salts which are contained in healthy urine; these are the ammoniaco-magnesian phosphate, and phosphate of lime united to a small quantity of phosphate or carbonate of magnesia. 3. Of substances which are

foreign to healthy urine; these are oxalate of lime, cystic oxide, fibrine, and hairs. M. Majendie has found six species of gravel. The red, white, grey, yellow, hairy, and transparent.

1. *Red Gravel.* In order to comprehend the origin, and to establish the basis of successful treatment of this species of gravel which is by far the most frequent, it will be necessary to enter into the history of uric acid.

The urine of man, and of many animals which are nourished with highly azotized foods contains uric acid. Its proportion varies according to the nature of the food; in those animals whose diet is wholly animal, the urine is abundantly charged with it, and even is entirely formed of it, as the researches of Vauquelin and Wollaston, on the urine of birds, have shewn. Still no uric acid has been found in the urine of the lion and tiger, but urea in great abundance. In truth, the nature of the food does not influence the secretion of uric acid alone, but also that of the other substances in solution in the urine, a fact which is of the highest importance in ascertaining the causes of gravel. If the food of animals is herbiverous no trace of uric acid is found. In a paper which M. Majendie read before the Academy of Sciences, some years ago, a series of experiments was detailed which shewed that, by depriving a carniverous animal of all azotized food, and by feeding it on sugar, gum, oil, and similar substances which are considered as nutritious, but contain no nitrogen, the urine at the end of three or four weeks was deprived of uric acid. A small, healthy, and fat dog, three years old, was fed on white sugar and distilled water, he was allowed to take as much as he could of each. For the first seven or eight days this diet appeared to agree perfectly well with him, but in the second week, although his appetite was always good, so that he eat six or eight ounces of sugar in the twenty-four hours, he grew thinner, his stools were neither frequent, or copious, but his urine was secreted in abundance. In the third week the emaciation increased, he became weak, dull, and had less appetite; a small ulcer formed in the centre of each cornea, which penerating them, evacuated the humours. He gradually became more emaciated and weaker, until he could neither eat nor swallow liquids, and died on the 32d day. The body was carefully examined, there was a total deficiency of fat, the muscles were reduced to five-sixth of their ordinary volume, and the stomach and intestines were very diminished in size, and strongly contracted. The gall-bladder and urinary-bladder were distended with bile and urine which were sent to M. Chevreul to analyze; he found that they had all the characters of these fluids in herbiverous animals, that is, that the urine instead of being acid, as in the carniverous animals, was sensibly alkaline without a trace of uric acid, or of the phosphates; the bile contained a considerable quantity of picromel, which is the case with the bile of the cow, and of herbiverous animals in general. Similar experiments were tried with other dogs who were fed with oil, butter, gum, &c. and always with the same results, the nature of the excrementitous fluids being entirely changed became nearly like those of the herbiverous animals. M. Majendie deduces from these facts an important practical principle, that there is an evident relation between the diet and the presence of uric acid in the urine, or in other words, that no uric acid exists in the urine of those animals who do not eat flesh or other azotized food. M. Chossat, in a paper published in the fourth volume of the Journal de Physiologie, has confirmed this by numerous experiments on his own urine. Bérard, of Montpellier, has recently analyzed uric acid, and, according to him, 100 parts are composed of—

Nitrogen	39,16
Carbon	33,62
Oxygen	18,89
Hydrogen	8,34
	100,00

Pure uric acid is solid, of a pale yellow colour, heavier than water, without taste or smell; it is not decomposed by the action of air or water; boiling water only dissolves 1-1150th of its weight, and, consequently, the urine at 60°, which is its temperature in a state of health, will hold in solution only about 1-1500th of its weight of uric acid.

To ascertain the Causes of Red Gravel, the circumstances which determine the separation of uric acid from the urine in which, in health, it is in a state of solution, must be investigated. Three evident causes can diminish the power the urine possesses of dissolving uric acid; these may not be the only causes, but they are the chief. 1. Augmentation in the quantity of uric acid, the quantity of urine remaining in the same, or not augmenting in proportion to the acid. 2. Diminution in the quantity of the urine, that of uric acid remaining the same, or not diminishing in the same proportion as the urine. 3. Diminution in the temperature of the urine, its quantity either remaining the same, or undergoing the changes above-mentioned.

1. *Causes tending to augment the Proportion of Uric Acid, and to produce in consequence Red Gravel.* Amongst the most evident is high living; thus, lovers of good eating, who indulge in large quantities of meat, fish, game, and highly azotized dishes, and who have passed the age for muscular exertion, are the frequent subjects of gravel. The following case illustrates this proposition. A merchant in one of the provincial towns of France possessed, in 1824, a considerable fortune; he was fond of the luxuries of the table, and was tormented with gravel and gout; owing to political misfortunes he lost his property, and fled into England, where he spent a year subject to extreme privations, but his gravel and gout disappeared; gradually his affairs became more prosperous, he resumed his good living, and with it the concomitant disease; by a second misfortune he lost all that he possessed, and returned to France without resources, his diet was as scanty as his means, and the gravel disappeared; by his industry he again raised himself to affluence, he returned to the pleasures of the table, and with them re-appeared the gravel and the gout, for which he consulted M. Majendie. Another proof of the influence of diet on the proportion of uric acid may be taken from individuals habitually moderate, who make an unusually large meal; the next morning, or even the same evening, their urine is strongly-coloured, and deposits a considerable quantity of uric acid. If sedentary and elderly men, who use but little their muscular system, take very substantial food, they are more likely to be affected with gravel than those who exercise their muscles vigorously, for the muscular system, when fully exercised, is that in which nutrition is most active, and which requires the most azotized nutriment; if the same diet is taken, and in considerable quantity, without exercise, the muscles do not require the azotized nutritive matter, it is in excess in the economy, and is directed to the principal emunctories of nitrogen, the kidneys, where it is converted into uric acid, and forms gravel. As long as the quantity of urine is sufficient to dissolve the uric acid, it produces no inconvenience, and this is the case with many persons who indulge in this luxurious diet; but if the proportion of urine diminishes, uric acid is immediately deposited.

2. *Causes which augment or diminish the Quantity of Urine, and which are favourable or unfavourable to the Deposition of Red Gravel.* Putting aside the chemical nature of the fluid, it is true that the more is drunk, the more abundant is the urine. This is correct as far as relates to those liquids which contain a large proportion of water, as beer, cider, or diluted wine; but it does not apply to strong wines or spirituous liquors, which contain much more alcohol than water, nor wholly to warm drinks, as tea, coffee, punch, &c. which produce cutaneous perspiration. If, then, a man who eats much animal food, drinks much water, or weak and effervescing wines, the quantity of his urine will be more than sufficient to dissolve the uric acid formed by the kidneys, and he will be less exposed to be attacked by

gravel. If, on the other hand, he drinks but little, or not in proportion to the food he takes, or if he drinks freely of heating wines, brandy, strong liqueurs, or any fluids highly charged with alcohol, his urine will be less abundant, and, consequently, will dissolve less uric acid; his urine will, therefore, be so much the more disposed to deposit gravel. If it was merely sufficient to drink much to avoid the gravel, those who are most subject to it (les grands mangeurs et les gastronomes) would suffer from it rarely. But a particular and imperfectly known cause acts upon them in an inverse ratio; this is, the diminution of the action of the kidneys by the use of animal food. In experiments which M. Majendie has made on animals to ascertain the effects of azotized and non-azotized food, he has found that the use of the latter augments sensibly the quantity of urine; thus, a dog fed with sugar, and a given quantity of water, makes, in 24 hours, a much greater quantity of urine than another dog, drinking the same proportion of water, and fed with meat. M. Majendie has often observed the same thing in man. Individuals who feed on meat alone, for the cure of any disease, are remarkable for the small quantity of urine they secrete. The contrary is the case with persons who are on a strictly vegetable diet. M. Clouet, wishing to make an estimate of the nutritive properties of the potatoe, eat that root alone for some time; at the end of 12 or 15 days he was seized with a diuresis, which had some analogy with diabetes. A further proof is deduced from the comparison of the quantity of urine secreted by carnivorous and by herbivorous animals, in the former it is much more considerable—thus, contrast a cat and a rabbit of the same size, although the latter never drinks, it secretes urine much more abundantly than the former. The fact which M. Majendie has endeavoured to establish, that meat and other analogous food tend to diminish the quantity of urine, at the same time that they augment the quantity of uric acid, will be found to form the basis of his treatment. It is almost unnecessary to add, that all causes diminishing the quantity of urine, such as abundant perspiration, sweats, liquid evacuations, &c. will be favourable to the formation of gravel, by preventing the solution of uric acid. In the same manner, prolonged confinement to bed, either by exciting cutaneous perspiration, or by retarding the passage of the urine into the bladder, favours the formation of gravel. Van Swieten relates the case of a man who had never had any symptom of gravel, but was attacked with a calculus nephritic colic a few weeks after the cure of a fracture in the thigh, for which he had remained in bed and in one position for ten weeks. After great pain he expelled a small rough calculus, and became subject to gravel. Similar effects may be caused by habitually retaining the urine a long time in the bladder.

3. *Influence of the Temperature of the Urine on the Deposition of Red Gravel.* The tendency which old people especially have to deposit gravel is owing to the diminution of animal heat. M. Majendie has found, from thermometrical experiments, that after 60 years of age, the temperature of the body is reduced many degrees; it rarely exceeds 96° (Fahr.) even in the arm-pits or groin, which are the hottest parts of the surface of the body, and which follow almost always the temperature of the internal cavities. The urine is proportionally cool, Majendie has rarely found it above 86°, that is 14° or 18° below its ordinary temperature. From this circumstance alone, cæteris paribus, the old man is more exposed to gravel, as his urine is less able to dissolve uric acid. Perhaps the long continued action of cold in the adult may produce a similar effect.

2. *White Gravel.* This is found next in frequency to the red. It is deposited in 2 forms. 1. As a white powder. 2. As small angular and irregular gravel, of various consistence. This is almost entirely composed of phosphate of lime, with a little phosphate of magnesia. It dissolves readily in weak muriatic acid, and the phosphate of lime is precipitated without effervescence by ammonia. Prout prescribes white and friable concretions, formed almost wholly of carbonate of lime; these of course would be distinguished by their effervescing

with acids. Majendie has never found them in the urine of man, but in that of animals, particularly of the horse, they are common. If the experiment on the dog, fed on non-azotized substances, be referred to, it will be found that the presence of phosphate of lime in healthy urine is evidently connected with animal diet, for on depriving the animal of it for 20 or 25 days, no traces of the phosphates could be discovered in his urine. In fact, all the remarks of the causes which favour the deposition of the red gravel, are applicable to the white, formed of phosphate of lime. The presence of carbonate of lime, a principle which does not exist in healthy human urine, seems to depend on an exclusively vegetable diet, as this salt is found in the urine of herbivorous animals.

3. *Hairy Gravel.* This exists either in the form of a whitish powder, mixed with hairs, or as gravel of various sizes, hairy on the surface, and sometimes connected together as a bunch of grapes. In the powdery state, the small hairs which are mixed with the white powder vary in length, from a line to an inch, or more; they differ little from ordinary hairs, being only a little finer, and of a cindery-grey colour. The saline matter forms a layer at the bottom of the vessels; if it is left for some time it cakes, and can only be detached in layers of some lines in thickness; on breaking these, the hairs are seen on the edges of the fracture. M. Pelletier analysed this, and found it to consist of phosphate of lime, with a little phosphate of magnesia and traces of uric acid. The first case in which M. Majendie observed this peculiar disease was of a professor of the university; the deposition was so great that he filled, in some days, a vessel which held more than a pint; the quantity which this man had passed in several years was truly extraordinary. The second case was that of a sailor, who evacuated gravel connected by hairs. In neither of these cases, nor in a third, which will be detailed when the treatment is discussed, could excess in animal food account for the production of the phosphates; they were very sober men. M. Majendie offers no explanation of the source from whence these hairs were derived. He does not appear to have been aware that Hippocrates had observed a similar deposition in the urine, *οκοσοισι δε εν τω ουρηματι παχει εοντι, σαρκια μικρα ιριχοειδεα συνεχεται, ταυτα δε απο των νεφρων ειδεναι χρη εοντα και των αρθριτικων.*—(*Hipp. Sec.* 3, *p.* 230. *Tom.* I. *folio. Geneva*, 1657.) Hippocrates does not assert that they are actual hairs, but that they are small fleshy bodies like hairs, in thick urine—that they come from the kidneys, and from those persons affected with gouty disease of the joints.

4. *Grey Gravel.* Majendie has never seen this deposited as sand; in some cases, the concretions were smooth and similar in form, and nearly the size of an olive or pistachio nut, in others spherical and rough; they are formed of concentric layers, indicating the slowness of the deposition; they are true urinary calculi, but their size is not voluminous enough to prevent their expulsion through the urethra. They are composed of the ammoniaco-magnesian phosphate, united to a small quantity of animal matter, and some traces of uric acid. From the presence of ammonia, it is probable that a highly azotized diet is the chief source of this gravel; M. Majendie has never observed it, except among "veritables gastronomes."

4. *Yellow Gravel.* This, which is composed of oxalate of lime, is rare. M. Majendie has seen but one instance of it; the gravel stone which was expelled was about six or seven lines in length, and from 1½ to 2 lines in breadth, elongated, flattened on two sides. hard, of an orange-yellow colour, and uneven surface; M. Desprex, an excellent chemist who examined it, found that it consisted of oxalate of lime, nearly pure. M. Majendie was surprised to find such a product in an individual whose corpulence, age, habits of life, &c. were favourable conditions for the secretion of *uric acid*, and, therefore carefully investigated his diet. His patient, who had always indulged in the pleasures of the table,

had been on a political mission to a neighbouring country, where "le goût de la bonne chère est fort répandu," and had received and given numerous official dinners, where he had shewn himself "à la fois diplomate habile et gastronome éclairé." On his return he gave up his official station, and on entering into private life, he resolved to reform his habits and to adopt a cooling regimen. For this purpose he took every morning a large plate of sorrel, and continued this nearly a twelvemonth; at the end of this period he was attacked with a fit of gravel, and expelled the oxalate of lime calculus. Its origin was thus readily traced to the immoderate use of sorrel.

6. *Transparent Gravel.* These concretions are composed of cystic oxyde, and are very rare. They are of a yellow, citrine colour, and of the transparency of topaz; on breaking them they appear to be composed of an aggregation of crystals, mingled together without order. On burning, they exhale a fetid odour; they are soluble in acids and alkalies. Cystic oxide was discovered by Wollaston. M. Lassaigne analysed a specimen found in a dog's bladder, and the following was its composition:

Carbon	36.2
Azote	34.0
Oxygen	17.0
Hydrogen	12.8
	100.0

The chemical nature of this gravel connects it evidently with uric acid, both as to its origin and relation with animal nutriment.

Of some of the particular Causes of Gravel. M. Majendie allows that there are many causes of gravel which he cannot explain by the physiological or chemical laws; he admits that we see individuals daily, who, from their age, diet, and habits, present the most favourable conditions for the formation of these concretions, but who are not subject to them; and that, on the other hand, there are examples of persons attacked with gravel, whose diet and modes of life are very different from those who are generally the subjects of it. Thus, according to Scudamore, gravel is frequent among the poor between Tunbridge Wells and Lewes in Sussex, although their food is almost exclusively vegetable, with hard beer, and yet it spares the better fed inhabitants. Gravel is not unfrequently expelled after making a violent exertion, also, by individuals sober and otherwise healthy, if they have indigestion, accompanied by bitter or acid eructations, pyrosis, &c. M. Majendie met with an instance of a boy, who expels two drachms of red gravel the day after he has eaten a salad, and Béclard informed him of an individual who discharged one or two small calculi invariably after eating unripe fruit. He believes that dyspepsia and gravel, which exist simultaneously in the same subject, are effects of the same cause, and do not reciprocally produce each other. It has been for a long time observed, that the inhabitants of temperate and of moist climates were most subject to calculous affections, and that in cold and equatorial countries it is rare, and authors have attributed this to the difference in temperature. M. Majendie has been led to believe that this absence of calculous disease depends on the vegetable diet, from the following fact, related to him by M. Orfila. The inhabitants of the Island of Minorca live principally on fish and other animal food, they season these substances highly with pepper and other spices; their drink is a generous wine, which they rarely dilute, they also use freely brandy, rum, and punch. During Orfila's residence there, in 1816, he remarked that calculous diseases were very common, and that the urine of the inhabitants was highly charged with uric acid, which produced small calculi, that were expelled with the usual symptoms. Gravel has been believed to have been caused by the stony concretions of some fruits, particularly of

pears, but Maquart and Vauquelin have studied their chemical composition, and find that they are neither composed of phosphate nor of carbonate of lime, nor of uric acid, as had been suspected, but of a woody matter like that of the tree which produced the fruit, confusedly crystallized, and mixed with a kind of starch. Thus they could not be a cause; and, besides, Majendie has frequently found that they have passed through the intestines without undergoing any change. Hales has stated that gravel often was produced by drinking waters containing carbonate of lime; but it appears from the reports of Chopart and Dessault, who practised surgery in the largest hospitals of Paris, that stone or gravel was very rare in the village of Arcueil, although its water is impregnated with carbonate of lime. Besides, the composition of calculi is not similar to this salt. The same argument applies to common salt, which many authors have stated to be one cause. To recapitulate,—the causes of gravel, either direct or indirect, are, 1. Mature or old age. 2. Too nutritious diet, principally composed of substances containing much nitrogen, or of substances capable of forming deposits in the urinary passages. 3. Want of exercise, literary studies, confinement to bed, &c. 4. A small quantity of drink. 5. Generous wines and strong liquors. 6. Perspiration, abundant sweats, and all serous evacuations in those disposed to gravel. 7. The habit of keeping the urine a long time in the bladder. 8. Some particular causes, whose effects are obvious, but whose modus operandi is unknown.

Symptoms of Gravel. Most frequently, some months before the expulsion of gravel, a sense of numbness and uneasiness is felt in the region of the kidneys, the urine is deeper in colour, and deposits a reddish sediment on cooling. These symptoms attract but little attention, but they increase; there is greater pain and weakness in the loins, and the day after this pain has been most severe, a certain quantity of sand is evacuated with the urine; this is frequently attended with heat and burning pain in the course of the urinary passages, sometimes the pain is acute and is attended with fever. The symptoms generally become more severe, the pains in the kidneys increase in violence at each attack, and at times are intolerable, the patient tracing the torturing descent of the stone through the ureter; this is almost always accompanied with frequent desire to make water, retraction of the testicle, cramps, nausea, and vomiting; the patient cannot remain in the same posture, he cannot stand or walk; this remains 36 or 48 hours, and suddenly ceases. During the day the patient expels, with some difficulty, one or more calculi. From these general symptoms the important deduction may be drawn, that the solidification of gravel takes place as soon as the urine is formed, that is, in the pelvis of the kidneys, and perhaps, as the numbness and uneasiness in the loins seem to indicate, in the tubular structure of the kidneys themselves. M. Majendie found, in the tubular structure of the kidneys of an old woman, who was subject during her life to gravel, small concretions of uric acid, varying in size, from fine sand to elongated calculi, an inch in length. Chopart (Maladies des Voies Urinaires) says that he has found gravel stones in the tubular structure of the kidneys. It is probable that the solidification, in some instances, takes place either in the ureter or bladder. If, from its size or shape, a portion of gravel is arrested in its descent, it impedes more or less other particles; this is generally the origin of renal and vesical calculi. Stones in the kidneys, ureters, and bladder are most frequently the sequelæ of gravel, or its third degree, the expulsion of sand being the first, and of gravel the second.

Treatment of Red Gravel. There are four principal indications.—1. To diminish the quantity of uric acid which the kidneys form. 2. To augment the secretion of urine. 3. To prevent the solidification of uric acid by saturating it. 4. The gravel being formed, to favour its evacuation and to attempt its solution.

1. *To diminish the quantity of Uric Acid.* As the existence of this acid in the urine is connected with the use of food containing azote, it is necessary to diminish the quantity of the latter in order to prevent the undue secretion of the former. Majendie has frequently seen those cases in which the urine is loaded with red sand, cured by the patient's leaving off meat breakfasts, that is, if they did not make up at dinner for the morning's privation. At the commencement of this restriction the patient often feels weakness and malaise, but after a few days he finds the benefit, both in the increase of his spirits, and of general comfort. Those persons who make but one solid meal should diminish that one quarter or a half; this simple and efficacious remedy is difficult to put in practice for many persons, and particularly for old men; the dinner is the most important act of the day, a period of true and positive enjoyment. This diminution may be supplied by less hurtful food, such as bread, pastry, farinaceous articles of diet, rice, potatoes, green vegetables, sugar, &c. but still the patient must not abuse the use of these, as some bread and pastry contain much azote. Strong liquors and pure wine must be avoided, and aqueous drinks plentifully taken. Too often, notwithstanding these precautions, the gravel persists, and is very painful, and the stones are large and numerous; the patient must then be wholly deprived of azotized food. To give a general idea of the diet he recommends, M. Majendie has given an extract from the letter of a gentleman who was addicted to the pleasures of the table, and suffered severely from gravel, for which Majendie recommended a non-azotized diet. "On rising I take a cup of weak tea, in the course of the morning some 'orgeat,' (a drink whose chief ingredient is almonds); I dine at noon off vegetables and fruits, drinking many glasses of water with old white Bordeaux wine, and at dessert, two or three small glasses of the same wine undiluted; at five o'clock I drink sugared water; in the evening I take rice, or 'boüillie de blé noir,' and sometimes gruel made with water and butter; I drink with this meal some diluted white wine, and before going to bed a glass or two of sugared water." At the end of six weeks the gravel disappeared. After continuing the diet for 12 or 15 days the patient made an abundant quantity of urine, more than in proportion to the drink. A similar phenomenon was observed in the experiments on the dogs.

2. *To Augment the Secretion of Urine.* The most simple method is to drink abundantly of those fluids whose base is water, and particularly those known to be diuretic. Various vegetable decoctions, mineral waters, &c. have been recommended as specifics, but that must be chosen which proves diuretic, and agrees with the patient's digestion, and suits his taste. Five or six pints of such a liquid taken daily is not too much, especially if the gravel is severe. This sometimes produces a loss of appetite, laborious digestion, and general debility; the quantity should then be diminished, and aromatic or iced drinks substituted.

3. *To Saturate the Uric Acid.* When non-azotized diet, and abundant drinks have failed, recourse must be had to remedies which act by combining the uric acid with an alkaline or earthy base in order to form salts much more soluble than the lithic acid itself. It is well known that certain substances taken into the stomach impart very quickly to the urine their peculiar qualities, either of smell, as asparagus; of colour, as rhubarb; or are found in the urine without undergoing any alteration, as certain saline substances. Darwin found nitrate of potash in the urine half an hour after a few grains had been taken; and Majendie has confirmed these experiments both in man and animals. In order to saturate uric acid, alkaline carbonates are to be employed, whose bases are in excess, the uric acid combines with the excess of base, and urates are formed with the greatest facility, as a small quantity only of the base is necessary to saturate the acid. Even when the uric acid is saturated all fears for the deposition of sand are not removed, for the urates are only soluble in an excess of their bases, and are decomposed by the weakest acids; it is necessary then to have an excess of alkali in the urine in order to prevent the formation

of a new species of gravel by the deposition of the urates. This important result is promptly and easily produced in carnivorous animals, whose urine, like that of man, is acid. Majendie has many times found it alkaline in dogs two hours after they had swallowed a certain quantity of carbonate of lime, soda or potash, and the same phenomenon is not more difficult to produce in man; pure alkalies have a similar action, but they cause greater irritation of the bladder. The carbonates of soda and of potash being soluble in water, in all proportions, may be given dissolved in a large quantity of fluid, in a saturated solution, or in the solid form; but as carbonate of lime and magnesia are not soluble, they must be taken in the form of a powder, or suspended in water by means of mucilage; their insolubility renders them less efficacious than the former, and sometimes they are not absorbed but form concretions in the alimentary canal. The dose of carbonate of lime and of magnesia may be carried to many drachms in the 24 hours, some have taken an ounce. If more than from 24 to 36 grains of carbonate of soda or potash are taken daily, the stomach is apt to become deranged, and vomiting to come on, which is seldom the case if the dose is less considerable. Soda or potash, from their causticity, should be prescribed with greater precautions; they must be diluted so that the solution may make but a slight impression on the tongue, and a pint of this liquid may be taken daily for the same purpose. Magnesia may be given in the dose of 10 grains to an ounce or more in the 24 hours, either suspended in water or in boluses. Mineral waters containing earthy or alkaline carbonates act usefully in gravel by exciting the secretion of urine, for the small quantity of alkali they contain renders it improbable that it can saturate the uric acid.

This observation does not apply to the waters of Vichy, which contain a large proportion of bicarbonate of soda, which speedily renders the urine alkaline, as appears from the experiments of M. Darcet, in a paper published in les Annales de Chimie, Mars, 1826. M. Majendie has several times observed that an alkaline bath has rendered the urine alkaline. Experiment will alone determine which alkali will agree best with the patient, and will most effectually answer the desired end. The employment of alkalies in the cure of gravel is attended by the most marked and prompt success, but unless the diet is changed and the causes of the disease removed, it is a palliative merely, whose effects after a certain time will completely cease. In a physiological point of view the action of the alkalies, taken into the stomach, on the urine deserves attention. The surface of the stomach and intestinal canal being supplied with an acid which is constantly renewed, how is it that the alkalies do not combine with this acid, and that the carbonates are not decomposed? These combinations do take place, but the quantity of acid in the stomach and intestines is so great, and absorption so rapid, that the greater part of the alkali is absorbed and taken into the blood before it is acted upon by the acid of the digestive organs. Once mixed with the blood it can undergo no decomposition, as the blood itself is alkaline. But it is not so easy to explain the passage of an acid from the stomach to the bladder, for as soon as it arrives in the veins and mixes with the blood, it must necessarily combine with the excess of alkali in the serum. Is not the fact of the passage of acid from the intestinal canal into the urine still doubtful? M. Majendie does not regard this as impossible, but he thinks that experiments have not proved its truth. Although carbonic acid has been procured from the urine of a man who had previously drunk water saturated with this acid, it does not necessarily follow, that it had passed from the stomach to the kidney, as urine contains, when in a healthy state, carbonic acid. M. Majendie has frequentiy tried to neutralize alkaline urine by giving mineral or vegetable acids in strong doses, but he has never been able to obtain the result in a non-equivocal manner.

4. *To favour the Expulsion of Sand Gravel, and to attempt their Solution.* As soon as the pain and uneasiness in the lumbar region, or the expulsion of a small quantity of sand, announces the existence of urinary concretions in the kidneys, means must be used for their expulsion. The small size of the grains of red sand renders their expulsion less difficult than the other varieties; in most cases it is sufficient to drink freely of water, or some other aqueous drink to increase the quantity of urine; some take for this purpose a large glass of Seltz water, or of weak beer, or very diluted wine, either at night or in the morning; and with this simple precaution are able without inconvenience to enjoy the pleasures of the table, and to expose themselves with impunity to the causes which produce gravel; but the majority are not so fortunate, and are obliged to follow the necessary means for the diminution of uric acid, otherwise they are harassed by constant pains in the kidneys, producing want of sleep, and general disturbance; momentary relief may be obtained by leeches or venesection, but permanent benefit cannot be expected unless the diet is changed. Some patients consider that the formation of sand ensures them against renal and vesical calculi, and in consequence neglect these rules of diet, but this opinion is without foundation; it is not rare to find calculi in the bladder of those who have discharged sand for many years, and there are authentic cases of the ureters having been obstructed by the accumulation of very fine gravel. Calculi, often of a very considerable size, have been discharged periodically during many years with no more inconvenience than a slight impediment to the flow of urine at the moment of the exit of the calculus; probably the ureters of such patients are large, and the concretions smooth; even in these cases it is advisable to drink every day a certain quantity of aqueous drink to render the urine more abundant, and to prevent the possibility of the calculus being impeded. Such patients will derive advantage from exercise, either on foot or horseback, and in rough vehicles; of course such means would be injurious if the passage of the calculus is attended with pain. For the same purpose an emetic may be given in order to produce strong contractions of the abdominal muscles. Usually the passage of a gravel stone from the kidneys is attended with the acutely painful symptoms, and when this is the case, the expulsion of the calculus must not only be favoured by drinks, but the irritation should be subdued by complete abstinence, general bleeding, leeches, cupping, local and general baths, emollient fomentations, &c. according to the violence of the symptoms, and the age, temperament, and strength of the patient. Generally after 36 or 48 hours the symptoms abate, and one or several calculi are expelled; in some cases the attack is prolonged 10 or 15 days. If the remission of pain, &c. is not followed by the expulsion of a calculus, it is probable that the unfavourable symptoms will recur. Every remedy should then be employed for the evacuation of the retained calculus, as diuretic drinks, baths, dry frictions over the loins and in the direction of the ureters, exercise on foot, or on horseback, or in a carriage, if the patient can bear it. Emetics sometimes succeed when other remedies have failed. If the situation of the pain announces that the calculus has traversed the ureter and is arrested in its inferior extremity, a metallic sound may be introduced into the bladder, to endeavour to detach it, or the finger into the rectum to attempt to displace it by striking the back of the bladder. If the calculus is detained in the urethra, judicious pressure along the canal, oily or emollient injections into the passage, and abundant drinks, which often are alone sufficient to expel it; in some cases surgical aid is requisite. Notwithstanding these means the calculus may remain in the pelvis of the kidney, or in the bladder; its increase must then be prevented by putting the patient on a non-azotized diet, and the urine must be maintained alkaline, to endeavour to produce a solution of the concretion. Supposing the calculus to consist of uric acid, both physiology and chemistry lead us to suppose that these means will succeed. Experiments have shewn that a mass of uric acid plunged in urine, which is saturated with potash or soda, with an excess of alkali, and kept at a temperature of 77° to 95° Fahrn. which is frequently renewed, is in time completely dissolved. There is no positive proof of the solution of a renal calculus, but the many cases of calculous nephritis, which have been cured by the use of alkaline remedies, render it probable. This only applies to those formed of uric acid. M. Robiquet, an expert chemist, has published a case in which it was probable that a red calculus was dissolved by alkalies.

J. B. M., æt. 74, a retired merchant, had all the symptoms of stone in the bladder; Marjolin sounded him, and found a stone which was small and soft; he recommended

him to have it extracted by Civiale's method; but M. Robiquet and Dr. Farrot, whose patient he was, put him under the following plan of treatment:—to drink daily two pints of a solution of bicarbonate of soda, (5 grammes, 3j. grs. xvij. to the pint) and to take frequently hip-baths, and emollient glysters. He was recommended to abstain from excitants. After a few days he was better, and his urine was more abundant, its emission was rarely preceded by pain, and there was less irritation of the bladder. In 15 days the baths and lavements were discontinued; in a month the patient considered himself so well that he could be with difficulty persuaded to continue to take a pint of the solution per diem. Three months after the commencement of the treatment he felt acute pain in the urethra and expelled a small calculus, the form and size of a lentil; this was wholly composed of lithic acid, having all the appearance of the nucleus of a larger calculus, which had been gradually worn away. Marjolin, as the patient felt no pain or inconvenience, declined sounding him again.

Treatment of White Gravel. There are two varieties, one consisting of phosphate of lime, the other of carbonate of lime. 1. Gravel composed of phosphate of lime may be successfully treated by diet and drinks. The diet is the same which has been recommended in red gravel, for it has been shewn, that the urine of carnivorous animals who have been kept on non-azotized food, loses all traces of its phosphates. The drinks should consist of fluids charged with carbonic acid, which taken in great abundance augment the quantity of urine and tend to dissolve the phosphate. For this purpose, either artificial or natural Seltz water, or the waters of Contrexeville, Bains, or even Vichy, may be recommended. By such treatment Majendie has known this white gravel disappear in a few weeks, he has had no personal experience as to the efficacy of the diluted mineral acids, and he has known many affected with gravel who have derived no advantage from their use. M. Majendie has never seen white gravel composed of carbonate of lime: its treatment will consist in discovering the cause of the deposit, and in administering drinks strongly impregnated with carbonic acid, in order to dissolve the carbonates which are soluble in an excess of that acid.

Treatment of Hairy Gravel. M. Majendie has seen three cases; two of these yielded readily to a vegetable diet, and the carbonated alkalies; the third was more obstinate. This patient applied to M. Majendie in 1827. He had suffered from gravel for ten years, and after describing the acute pain which attended micturition, he writes, "but that which strikes me as a new feature in my case, is, that my urine, which is clear enough when I evacuate it, is no sooner cooled than it deposits a prodigious quantity of calcareous matter, which when dried appears like a thick layer of a friable grey sediment, the different particles of which, when attempted to be separated from each other, are held together by an infinite number of small hairs, something like hemp." On analyzing the sediment it was found to be composed of phosphate of lime united to a small quantity of phosphate of magnesia. M. Majendie recommended a slightly azotized diet, with carbonate of soda, and the patient's condition was much improved. The hairs first ceased to be observed in the deposit, and the quantity of the phosphate gradually diminished. Owing to a stricture

of the urethra the bladder was too irritable to bear the alkalies for a length of time sufficient to ensure his cure.

Treatment of Grey Gravel, composed of the Ammoniaco-Magnesian Phosphate. It is not very rare, but it is one of the most painful and dangerous forms, as the particles of gravel are often large and rough. It may be cured by regimen alone: by putting the patient, who is generally a lover of the table, on a moderate diet, he will be much relieved, and, if this does not succeed, the strictly vegetable diet, as recommended in red gravel, will certainly produce a complete cure, if the individual has sufficient resolution to submit to the restriction.

Treatment of Yellow Gravel (Oxalate of Lime). M. Majendie has only met with the case which has been detailed, and which was traced to the eating of sorrel; interdicting the use of this vegetable produced a complete cure. Professor Langier communicated a somewhat analogous case to the "Academie Royale de Médecine" some years since. The father of a celebrated artist in Paris, who had been sounded, and a stone detected in the bladder, called upon him to know if he had no chemical agent which would supersede the necessity of an operation; he recommended him to have the operation performed, and it was successful. After some months the patient returned, and requested to know whether some remedy might not be recommended to prevent the return of the complaint; the patient shewed the stone, which consisted of oxalate of lime. M. L. questioned him as to his diet, and found that he was very fond of sorrel, and that he eat it daily; he was of course recommended to leave off this article of diet, as it contained an acid of which the calculus was partly composed.

Treatment of Transparent Gravel (Cystic Oxyde). M. Majendie has seen but one case; this was much benefited by a vegetable diet and alkalies; this treatment was founded on the consideration of the chemical nature of cystic oxide, which, according to Lassaigne's analysis, contains, in 100 parts, 34 of azote. M. Majendie considered that, by diminishing the quantity of azote in the food, he should prevent the excessive formation of a principle which forms one-third of the diseased deposition; and as cystic oxide is soluble both in alkalies and acids, he attempted, by rendering the urine alkaline, to dissolve the foreign body if it existed in a solid state.

Mixed Gravels and their Treatment. Proust mentions the case of a man who expelled gravel stones of phosphate, and others of carbonate of lime. M. Majendie attended a patient, who was affected with sand consisting of phosphate of lime and Magnesia, who stated that he had been previously subject to red gravel. Alternating calculi prove the same thing. This is probably a less rare affection than is supposed; but physicians often neglect the analysis of gravel. M. Majendie, towards the conclusion of this volume, pays a verbal compliment to the work of Dr. Prout, but he does not appear to have paid him the compliment of reading his book, otherwise he would hardly have stated his *one* case of mixed gravel, and his *supposition* that it is not so rare as is supposed. Dr. Prout most distinctly states, that the deposition of the phosphates is rarely original, but that it is a state induced by, or consequent to, the other forms of urinary deposition, especially the lithic acid and oxalate of lime; he also describes the symptoms which mark the transition from the lithic to the phosphatic diathesis! M. Majendie does not vary his treatment in these cases.

Prostatic Calculi. It is of importance to distinguish these from gravel. They are never larger than a small pea, having almost always distinct and regular facets, which are produced by the attrition of many in one cell; at other times they are fusiform, and then there is but one calculus in each cell.

Vesical Calculi. The largest vesical calculi are only very large gravel stones; they have commenced by small calculi, which, from some mechanical impediment, have been detained in the bladder, and have increased by the addition of successive layers; even when these are removed by lithotomy or lithotrity, the immediate cause of pain is got rid of, but the disease is not cured, nor even attempted to be cured; consequently, calculi very frequently form again, and require another painful operation. Surgeons have not sufficiently attended to this point; as soon as the stone is extracted it should be submitted to a careful analysis, and a treatment adopted according to the nature of the gravel which formed its nucleus. Prout has proved, that two-thirds of the total number of calculi are formed of uric acid, or have a uric acid nucleus; therefore, in the majority of cases, the treatment for red gravel is to be recommended: if the calculus is found to consist of any of the other principles, the patient will require the same remedies which were recommended for similar sorts of gravel.

M. Majendie devotes a short chapter to the "empirical treatment of gravel;" he confesses that, as no theory will comprehend the explanation of all the causes of calculus, or the mode of action of all the curative remedies, the most experienced physician must have recourse to means of cure, whose efficacy has been proved by experience, although it cannot be accounted for by reasoning. Thus, he says, these patients are benefited by remedies which are useful in relieving the dyspepsia which often accompanies their disease, such as small doses of rhubarb and magnesia, quinine, repeated purgatives, &c. Other causes, such as change of air and occupation, relief from mental anxiety, &c. act beneficially, but no plausible explanation can be given of their mode of acting.

We have now fulfilled our promise, and have given the whole of the practical information contained in M. Majendie's work. It is valuable, from its accounting, on physiological principles, for the action of animal food in the production of uric acid, and it contains many judicious hints, which may be made available in practice, but M. Majendie simplifies too much, he endeavours to trace the origin of every species of gravel to the same cause, and to enforce a similar treatment; his mechanical notions of imbibition have influenced him too strongly, and he looks on the human frame rather as a piece of human mechanism, than as a body endowed with life. He founds his practical observations on comparative physiology, but even here there are startling exceptions, the urine of the lion and tiger, although they are carnivorous animals, contains no uric acid, whilst that of the boa constrictor is almost wholly composed of it. Foucroy and subsequent chemists have also found uric acid in the urine of domestic fowls. There are similar exceptions in practice; although the bon vivant may be benefited by complete abstinence from animal food, yet the debilitated sufferer from depositions of the phosphates, according to Dr. Prout, a high practical authority on this point, is relieved by a moderate animal diet more than by an acescent vegetable one. The same obscurity hangs over the action of some medicines; Dr. Prout forbids the use of saline purgatives, containing a vegetable *acid*, in the phosphatic diathesis, as he has observed that they render the urine *alkaline*. Surely such instances prove that the vital action of the digestive or urinary organs of different animals, in a physiological state, and of different individuals in a pathological condition, produce some change in the ingesta more important than the mere mechanical separation of their elements, which M. Majendie alone recognizes? Besides, there are other sources by which nitrogen is conveyed into the circulating fluid, and which M. Majendie has not mentioned—respiration and absorption. The experiments of Dr. Edwards on this subject, proving that the absorption and exhalation of this gas by the lungs varies in different temperatures, ages, seasons, of the year, &c. may perhaps cast some light on these diseases, and explain more satisfactorily some of their causes. Although M. Majendie allows that there are many remedies which have a beneficial effect on gravel, whose action he cannot

explain, yet he does not appear to have tried them in his own practice, and is contented with the mere enumeration of them. We suspect that the practical opportunities which he has had of testing the truth of his physiological speculations have been confined to one class of individuals, those who are addicted to the pleasures of the table, otherwise he would hardly have asserted that a restricted diet was a certain cure. Notwithstanding this Sangrado simplicity of treatment, so exclusively recommended in all cases, and which forms a strong contrast to the manner in which Dr. Prout discusses the same subject, there are many obscure causes of gravel mentioned by him, for which M. Majendie satisfactorily accounts, such as the deposition of a red sediment after hard exercise, an unusually large meal, &c. which all who have a susceptibility to these depositions must have constantly observed; the greater frequency of gravel in old people, &c. So little is at present accurately known of the manner in which medicines or food act on the various organs of the body, that any successful explanation of their modus operandi must be hailed with pleasure; this is one of the great practical benefits to be expected from the study of physiology, and we are happy to recommend to our readers a useful and instructive work, in which this application has been made by one of the most celebrated experimental physiologists of France.

IV.

A TREATISE ON THE EPIDEMIC CHOLERA, AS IT HAS PREVAILED IN INDIA, FOR THE PURPOSE OF ASCERTAINING A SUCCESSFUL MODE OF TREATMENT; WITH A CRITICAL EXAMINATION OF ALL THE WORKS WHICH HAVE HITHERTO APPEARED ON THE SUBJECT. By *F. Corbyn, Esq.* Bengal Establishment. Calcutta, 1832.

LITTLE did Mr. Corbyn dream, when he finished his volume, that at least 500 authors, to him unknown, had written on cholera about the time that volume was closed! Mr. Corbyn has given a digest, not quite so full as we have done in this Journal, of the reports made to the three Presidencies, together with analyses of several detached works, which had appeared previously to the appearance of the epidemic in Russia, or in the Western parts of Europe. The information, therefore, to be derived from this volume by the European practitioner *now* is very small—if we except the criticisms of Mr. Corbyn himself. These are, occasionally, tart enough, and the author has expended an unusual share of his critical acumen on the Editor of this Journal, though certainly in a gentlemanly manner, and without any tincture of illiberality. It is chiefly at Dr. Johnson's theoretical speculations that Mr. Corbyn has levelled his censures; and Dr. J. no doubt, was unaware of the weight of his sins; for, by Mr. Corbyn's account, he has led almost the whole of our Indian brethren astray in matters of theory.

"The prevalence of the Cholera in an Epidemic form has given rise to a number of treatises, in which attempts are made to explain its proximate cause, from which the mode of treament is necessarily deduced. Before I proceed to a consideration of the principles which the authors of these works have endeavoured to establish, I must take notice of those which form the basis of Dr. James Johnson's practice, as that gentleman considers

the disease as an Endemic, to which the inhabitants of tropical climates are at all times liable. The distinguished author of the Influence of Tropical Climates on European Constitutions, and of the Influence of the Atmosphere on Health, was among the first to attract the public attention to the disease; and, accordingly it is to be supposed, that his views have had considerable influence in forming the opinions, and directing the practice of the medical officers of the three Presidencies." 215.

Again, at page 253, Mr. C. observes :—

"I proceed to examine the Reports furnished by the medical officers at the three Presidencies, commencing with those of Bengal, in which the same train of reasoning with that of Dr. Johnson, has been followed with very little variation."

Once more, he says, at p. 273 :

"Mr. Scot, the Secretary of the Medical Board of the Madras Establishment, on whom has devolved the task of digesting various reports from the Medical Department on that Establishment, unequivocally follows Dr. Johnson's train of reasoning on the proximate cause, and deduces from it the same course of treatment."

If Dr. Johnson has erred in theory or practice, it is evident that he has done so in good company; for he is not vain enough to suppose that the short notice which he took of cholera, from observing a few cases of the disease in a sporadic form, was capable of leading astray such men as Jameson and Scot. Of Mr. Corbyn's own doctrines we cannot form a very clear idea. He seems, like many critics, to be more successful in demolishing the theories of others, than the establishment of his own. If we understand him rightly, he looks upon cholera as a purely inflammatory disease, and therefore to be combated by depletion and sedatives. The following extract will convey some notion of Mr. Corbyn's therapeutics, and perhaps of his pathology also.

"The indications of cure are, first, to allay the irritability and spasm, and prevent inflammation. Second, to excite biliary effusion into the bowels, and alvine dejections of a healthy consistence. Third, to determine blood to the surface. Fourth, to restore the system to its former tone and healthy action. The first indication is accomplished by bleeding, sedatives, and anti-acids. The second, by calomel and drastic purgatives. The third, by counter-irritants. And the fourth, by corroborants.

First, bleeding. This may be effected by the lancet, by leeches, or by cupping. The most successful is by the lancet; but we find that it is not always practicable; either syncope comes on, or otherwise congestion has taken place, which prevents the flow of blood from the arm or jugular vein; in either case, we should have recourse without delay to leeches, which ought to be applied over the epigastrium. They are not, however, at all times and in all places to be procured, to the number required. When this is the case, cupping supplies the desideratum.

The extraction of blood from a large vessel, at a distance from the inflamed part, will be more beneficial than tropical bleeding. Clinical practice shews, that the patient's safety absolutely depends upon an immediate stop being put to the first approach of inflammation and congestion; and that tropical bleeding only proves powerfully efficacious when general plethora or congestion has been previously removed. We shall find, therefore, according to the urgency and importance of the case, that venesection, or arteriotomy

will not only be once, but repeatedly necessary, in conjunction with leeches and cupping. The quantity of blood to be taken away must depend, in like manner, upon the severity and urgency of the symptoms, the strength, and age of the patient. We must ever consider, however, that in the majority of cases, especially among Europeans, cure depends upon the boldest use of the lancet. In the records to be found in the second part of this work, instances are stated in which life seems to have been saved by the sacrifice of some hundred ounces of blood in a few days; and that 60 ounces were drawn at a time, with unequivocal success, in which the small extractions would have failed to render the least relief.

Our object, in this disease, is obviously to evacuate a considerable quantity of blood; hence we must operate in such a manner as not to induce fainting. Now we know from experience, that during the operation of evacuating blood, the patient is liable to fall into a state of syncope; a horizontal position, therefore, is to be preferred to any other; for fainting is not so liable to occur in a horizontal as in an erect posture. But admitting that in any position fainting occurs, we should not on that account suppose the blood will not again flow, we must wait patiently, at the same time moving the arm in all the variety of positions that can probably assist in bringing the openings of the skin and other integuments to correspond with that of the vein, until the blood begins to flow. Throwing the muscles of the part into constant action, or giving the patient a cane or other firm substance to turn frequently around in the hand, will often produce a flow of blood which would not otherwise ensue. The experienced practitioner knows these circumstances to be true; but as the tyro, ignorant of such facts, might not adopt these alternatives, I have thought it proper to be thus particular.

With respect to arteriotomy, we are aware that its most strenuous friends have shrunk from any attempt of this kind on the larger arteries. Perhaps in no affection is arteriotomy in the smaller branches more desirable than in Epidemic Cholera, in which we require immediate and large evacuations of blood. But let us now suppose that we fail to obtain blood by venesection, arteriotomy, and cupping; we must then have recourse to such measures as will draw the blood to the surface, such as friction and the hot bath. It often happens, that we can draw blood while the patient is in the hot bath, which would fail to flow in any other situation. The bath must therefore be at hand.

Sedatives are laudanum, calomel, magnesia, and hot bath.

Laudanum. This medicine may be given in doses of sixty to eighty and one hundred and fifty drops with great safety, and the effect is favourable in producing sound sleep, assuaging pain, removing spasm and irritability. But laudanum in less doses operates in a different way; fifteen and twenty to thirty and forty drops produce a high degree of excitement, sometimes apparent inebriety and delirium, and if the patient should doze, frightful dreams awake him in convulsive startings.

Calomel, in doses of from fifteen to twenty grains, is a sedative, and has the singular good qualities of immediately stopping violent vomiting and purging, removing spasmodic irritability, producing tranquillity of mind, exciting the secretion of the liver, and preventing the progress of inflammation. I have known a patient labouring under frequent dysenteric evacuations, with tenesmus, to be under the common course of small doses of calomel and opium for a fortnight without effect, and strange to say, one dose of twenty grains of calomel, at once stopped the purging, removed the tenesmus, and soon restored the bowels to their former tone. Calomel, in doses of from one to five and ten grains, acts as a stimulant, produces vomiting, and violent purging, lassitude, restlessness, and almost insupportable griping pains of the abdomen. Although such are the effects of calomel on the constitution, it is equally important to mention the form in which calomel ought to be given in acute diseases." 197.

From the above extract it will be seen that Mr. Corbyn does not differ, in any essential manner, from the practice which Dr. Johnson suggested long before the disease broke out in its virulent and epidemic form in the East. Dr. Johnson would say, that Mr. Corbyn has misunderstood, rather than unfairly criticised his theoretical speculations, and freely absolves him from any intention to misrepresent him. It is now too late in the day to quarrel about hypotheses, since a wide field, unfortunately, for observation in our own country, has tended to cool the most ardent of our theorists, and compelled them to acknowledge their ignorance.

We shall advert to a circumstance or two before we close our notice of this volume. The following passage at page 45, will set at rest the assertion that the epidemic is a new disease of 1817. Mr. Corbyn, who has been in India since 1814, and constantly among cholera patients, must surely be allowed to be a competent judge on the present occasion.

"In 1814, I was myself eye-witness to the destructive operation of this disease on board the ship *Mangles*, on which I embarked for India. We had been at sea about two months, when it burst forth with awful violence. During the short period of six weeks, sixty-four bodies were thrown overboard, and four men died one after another just as we had cast anchor in Table Bay." 45.

Thus then a ship from England, three years before the outbreak in Jessore, presented a frightful visitation of cholera, two months after she left an English port, and buried 68 men between England and the Cape!

Mr. Corbyn comes to the conclusion, from all that he has seen of Cholera, that it is not contagious.

"From personal experience, I feel satisfied that the notion of the Cholera being contagious is quite unfounded. I breathed the atmosphere of my hospital in the centre division of the grand army, where were the most distressed and poorest classes of people, morning, noon, and night; yet neither myself, nor any of the attendants were affected. During this time I have also visited officers on the staff whose tents were adjacent, but I never communicated the disease to any.

Those, however, who have written on contagion, advance, that some constitutions are not susceptible of contagion in any way, yet they may become the medium of communicating it to others. We ought to be cautious in maintaining opinions which suppose contagion in so remote and equivocal a manner as this, knowing the alarming consequences of such a belief. Through fear of contagion the sick may be forsaken and die for want of proper care; hospitals may become crowded, and cleanliness neglected for want of attendants, and thus a diseased atmosphere induced." 97.

We shall make only one more observation on the treatment which Mr. Corbyn has laid down in the extract already quoted. He makes no allusion whatever to the premonitory diarrhœa—makes no provision for its cure—a convincing proof, we imagine, that the said premonitory diarrhœa made no conspicuous figure in the character of the disease in India, else it would not thus be overlooked. This is the grand distinction between the disease as it appeared in the Eastern and in the Western hemisphere. Here it forms a most important beacon or warning, by attention to which nine-tenths of the cases of fatal cholera would be prevented.

Mr. Corbyn's object was to present the young Indian practitioner with a digest of what had been written on cholera, up to the year 1831 or 1832,

so as to form a portable book of reference. The publication will answer the purpose for which it was designed, but for the reasons already stated, its interest in this country is much diminished by our unfortunate familiarity with the complaint.

V.

Traite' The'orique et Pratique de la Ligature des Arteres. Par *J. P. Manec*, M.D. Premier Prosecteur à l'Amphithéatre Général des Hôspitaux Civils de Paris, &c. &c. Paris. Libraire Medicale de Crochard, Rue de l'Ecole de Medicine, No. 13. 1832.

It is somewhat singular, that, whilst the Medical School of England and the Continent have all afforded valuable works on anatomy, the subject of the present volume, at least as far as relates to its important illustrations, has been so much neglected. Whilst the greatest pains have been taken to represent the most minute, and comparatively, unimportant point in anatomy, and no expense has been spared to render these publications as correct as possible, as far as regards their immediate bearing on surgery, a blank still remained. It can be of little use to know the exact situation of parts individually, or indeed of their relation to one another, unless with this knowledge is connected a similar acquaintance with their relation to the skin which covers them; and although in some works on operative surgery, rules are given as to the directions in which incisions are to be made, and the parts which are to serve as guides to these incisions, still something more was required; and that, as applicable to the ligature of arteries, is here supplied by M. Manec, a man who had acquired some reputation as an anatomist, from his beautiful plates of the sympathetic nerve.

The work commences by an introduction, containing much new and instructive matter on the structure of arteries, particularly on that of their fibrous coat, together with a general history of the ligature of arteries from the time of Desault until the present. The author next devotes considerable space to a consideration of the different effects and comparative danger of various ligatures—of the value of torsion of these vessels as a therapeutic agent, considered relatively to the effects of ligature—of the mode of placing a ligature on a vessel when affected by disease, whether of steatomatous or ossific deposits—and terminates by some general considerations on wounds of arteries, and the means adopted by nature to effect their occlusion. The operations of ligature was illustrated by very excellent plates, to which are appended, descriptions of the various means which may be adopted for tying any vessel, although but one mode is represented in the drawing. Without any further preface, we will proceed to a more detailed examination of the work, in the form of analysis.

To take a view of the structure of arteries will be an excellent preparatory step to the consideration of the application of ligatures to them. The arterial system has been not incorrectly compared to a tree. Of its primary,

secondary, tenary, and quarternary branches, none, with the exception of the mesenteric and vertebral interlace, but the anastomoses increase in number in proportion as we reach their ultimate subdivisions. The structure of arteries is not the same universally; or, if the same elements enter into their composition, they are singularly modified according to the capacity of the vessels. Arteries consist of three coats, a cellular, a fibrous (peculiar to arteries), and an internal, (similar to the internal tunics of veins). But besides these, the large arterial trunks are enclosed in a species of cellular tube, called their proper sheath. The external part of this sheath is blended with the surrounding cellular tissue; its internal is distinct from the cellular tunic of the arteries themselves. By extending an artery longitudinally, a separation is effected between it and the cellular sheath. But to vessels of the fourth or fifth order, we find that this sheath no longer belongs, *e. g.* the radial, ulnar, tibial arteries, &c.

External Cellular Membrane.

In the large trunk this tunic lies in contact with the proper sheath, in the less, with the surrounding cellular membrane. Its internal surface adheres closely to the middle coat, the difference in their structure being the only line of separation; their union is effected by means of small cellular filaments passing from the outer coat to be inserted between the fibres of the middle coat. In examining some human aortæ, I have seen an intermediate tunic between the outer and middle, the nature of which I have not yet satisfactorily ascertained, although I should suspect, from its similarity to a structure in the same situation in the ox, that it is essentially glandular. The filaments of the cellular tunic are similarly interlaced to those of felt. Its vascular supply is of double origin—from surrounding vessels and from the artery itself. Extremely minute branches of the sympathetic nerve may be detected in it, by maceration for a few days in dilute nitric acid. We thus find that there is nothing peculiar in this membrane; not so in the next, or—

Middle Fibrous Tunic.

This is the thickest of the three membranes, but it is subject to variations in vessels of different sizes; it is very remarkable in the large trunks, and insensibly disappears in the small ones. Its colour also varies in different situations; it is yellow in the arch of the aorta; yellowish white in the iliacs and crural, and of a rosy tint in the smaller vessels. Its density is always in exact proportion to its thickness. This tissue (long considered as muscular) is formed of curved fibres, varying in length from one or two "millimétres,"* to two thirds of the circumference of the vessel. The most superficial of these fibres are the longest, their length gradually diminishing as they approach the internal tunic of the vessel, hence concentric layers are formed, the external of which are larger than the internal. This structure is easily detected by examining a transverse section of the aorta, by means of a magnifying glass. It may also be seen that the extremities of

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* A millimétre is one thousand part of a mètre, which is about 39 inches, English measure.

the curved fibres do not remain in the layer which is formed by them, but that they are inclined towards the internal tunic, to which they mostly adhere, by passing between the bundles of fibres placed beneath. The superficial fibres alone do not proceed in a direct manner, at least as far as can be well ascertained. They become confounded with the extremities of the deeper fibres, into which they are inserted. The ends of those fibres which form the internal layer of the middle coat, are immediately inserted into the internal tunic, but previously to coming in contact with this membrane they make a turn by which they change from a transverse to a longitudinal course. At the point where this turn is made the separate fibres cross one another so as to form a species of book. It even appears that, after this crossing of the fibres upon each other, one of them takes one direction whilst another proceeds in a contrary course; but I have never been able to follow a fibre throughout the whole of its course, and cannot speak with certainty as to this peculiar construction, although I am inclined to believe that such is the case. At the exterior of the middle coat the fibres are transverse and curved, at the interior they are longitudinal. This structure may easily be seen in the aorta of an ox, after maceration, if a magnifying glass be employed. The interlacement of fibres, just described, renders the internal portion of it very difficult to dissect, and gives to it that closeness of texture which it wants in other parts of its structure. From these observations it is evident, that the external surface of the middle tunic adheres to the cellular coat by the middle of the fibres of which it is formed, whilst its union with the internal coat is effected by means of the extremities of the same fibres. This disposition, whilst it gives great solidity to the internal face of the middle tunic, facilitates very much the movement of reaction which this membrane effects by its elasticity, after having been distended with blood. From some observations made on aneurisms in man, I was induced to make some experiments, which prove that the middle membrane alone can oppose any sanguineous infiltration, when the internal tunic has been by any means obliterated. The experiments consisted in destroying the internal tunic by means of a needle, when it was found that no blood penetrated the middle coat; but when the middle coat was torn by means of the needle, an infiltration took place, in two instances, as far as the surface of the vessel. The peculiar structure of the middle tunic is productive of a double result—1st, an augmentation of the elasticity of the fibres by the insertion of their extremities, the middle being left free; 2d, an insurmountable obstacle, to sanguineous infiltration, even when the internal membrane is destroyed. The rare occurrence of aneurism in connexion with ossification of arteries, may be taken as a further proof of this last deduction; for in this case the blood must come into contact with the middle tissue, and yet aneurism is very rarely produced under such circumstances. The separate fibres of the middle tunic are united by a short cellular tissue which is readily ruptured by the longitudinal traction, but not so easily by torsion. In the very young, some vessels may be traced into this tunic, but it cannot be injected in later life. Nerves cannot be found in it.

Internal Tunic.

This is connected with the middle coat by a tissue having no analogy with

common cellular membrane. Its internal surface is similar to serous membranes, excepting that it has a somewhat velvety appearance. Its organization differs also from that of serous membranes, inasmuch as it is destitute of the extremely delicate interlaying filaments which characterize them. It is evidently formed of globular molecules, having all, one with another, the same connexions. Serous membranes are also composed of globular molecules, but arranged in such a manner as to form elementary fibres. The organization of serous membranes is of a higher character than that of the internal tunic of arteries; this latter is extremely small and readily torn, and cannot be regarded as a membrane, the end of which is to strengthen the parietes of the vessel; such is evidently not its purpose; it is merely to afford a more ready passage to the blood, and this is effected by an unctuous matter which moistens the internal surface. In experiments which I have tried on various animals to ascertain the function of the artery in secreting this substance, I have isolated a portion of an artery between two ligatures and allowed the blood to escape. After a certain number of hours, I have found a collection of this unctuous substance, varying in quantity and quality in proportion to the age and state of health of the animal, and very much influenced by the animal employed. In some other experiments, I denuded a portion of a vessel of part of its internal coat, thus leaving the middle coat naked in one or more places; from this, also, a secretion of unctuous matter took place, varying in quantity and quality according to the time which the experiment had lasted—thus, six or eight hours after the experiment, the whole of the unctuous matter was of a similar character; but in 36 or 48 hours this similarity no longer existed, and the matter presented a different aspect and different qualities, according as it was situated over the middle or internal membrane; over the former it was larger in quantity, adhered more firmly to the membrane, and was much more consistent than at any other part. Hence, we may conclude, 1st, that the internal membrane alone does not afford unctuous matter; 2d, that the middle tunic contributes to its production: 3d, that when formed by the middle membrane it appears more plastic and coagulable. It is not improbable, from the plastic nature of this effusion from the middle tunic, that the internal coat may be re-produced by it, when by any cause it has been destroyed. Neither vessels or nerves can be detected in this internal coat, in its physiological state. Of the three tunics of the arteries, the internal and middle are the most readily torn by moderate traction or pressure; the external alone resists the immediate action of constrictive force, and does not give way to longitudinal traction until some time after the others have been torn through.

After having devoted so much attention to the intimate structure of arteries, the author next proceeds to the more immediate subject of his work.

The phenomena presented by an artery to which a ligature has been applied, are dependent on, 1st, the size, form, and nature of the instrument employed; 2d, the size and condition of the vessel. The introduction of, and improvement in, the use of the ligature have gradually followed the plan employed by Desault to stop the current of the blood in an artery. The principles on which this effect is now produced were not at that time understood, and a variety of means were employed by celebrated surgeons, such as Bichat and Scarpa, without much success. No satisfactory improvement

took place in this branch of surgery until 1805, when Dr. Jones published a valuable work on the means which nature adopts for the suspension of hæmorrhage. Various ligatures had been employed before the publication of this work, in which it was proved that the one in which the greatest confidence might be placed, was a small round ligature. Abernethy, Astley Cooper, and other eminent English surgeons adopted the practice, and with great success. It was not known in France until 1814, and was then so slightly spoken of by Roux, as to fall into disrepute. M.M. Béclard and Breschet repeated Jones's experiments, and with results so favourable that it was adopted and approved of by Duputren and Larrey; many, however, still continued to employ the broad, flat ligature, and do so even at the present day. It is to decide this question that M. Manec has paid a lengthened attention to, and tried numerous experiments on the subject, and in the hope that his endeavours will prove of service to mankind, and an assistance to the judgment of his professional brethren.

General Principles.

In effecting the obliteration of an artery, the first indication is to suspend the passage of the blood; this may be effected in various manners—1st, by simply compressing the vessel and bringing its internal coat into close contact, in all its parts; 2d, by the same contact with more or less extensive rupture of the inner and middle coats; 3d, a uniform compression of the artery, with a neat and regular section of its internal and middle coats.

M. Manec here enters into a description of the operation for ligature, as usually performed, and of the instruments which are necessary. The points particularly insisted on, are, the necessity of making the first incision sufficiently long (it is better that it should be too long than too short, because, in the latter case, the operation is more dangerous and tedious from the difficulty of reaching and of isolating the vessel; there is, also, much more cause to fear the effects of suppuration); the impropriety of opening the sheath more than is absolutely necessary to separate the artery from its accompanying vein and nerve; the necessity of avoiding all violent traction of the artery in surrounding it by its ligature, in which case its vessels of supply may be cut off, and death of the part take place. When the separation has been effected with violence, the artery at that part is only kept alive by continuity with itself; and if the patient be not young and strong, and the operation has been laborious, there is great probability that union will not take place between the artery and its sheath, but that a suppurative inflammation will ensue. Even if suppuration do not take place, still the violent separation of the vessel retards the succession of phenomena which should succeed one another before a perfect cure is effected. When an artery which is to be tied is situated close to a vein, the needle carrying the ligature should be introduced between the two vessels and carried outwards; the chance of wounding the vein is here very much less than it would be, were the needle passed in an opposite direction. If the vein be behind the artery, the latter should be gently elevated, and the needle carefully slid along its posterior surface. The same precautions are necessary in separating the artery from any nerves with which it may be in contact. A precautionary measure of great importance is, that when the knot is tied in the

ligature, the artery must not be elevated; if it be situated deeply, after having drawn the first knot near the vessel, the two thumbs or fore-fingers should be placed between the threads, which are then to be drawn in opposite directions, by applying one nail against the other. When the first knot is made, the assistant should prevent its slipping with his finger, whilst the second is repeated in the same manner as the first, and this will be sufficient. The object, after the operation, should always be to obtain union by the first intention, one end of the ligature being cut off, and the other allowed to hang out of the wound. In order to ascertain whether any substance might be employed as a ligature, both ends of which might be cut off, and the wound closed over it, I have employed a variety of animal preparations, but in every experiment, inflammation and suppuration have followed, until the foreign body was discharged. This opinion is not shared by some surgeons of eminence, but such has been the result of all my endeavours, and the experience of M. Dupuytren has confirmed him in a similar opinion. Frequently two or three abscesses form in succession before the ligature is discharged.

Having thus described the operation, the author next proceeds to a consideration of the phenomena which shew themselves both in and round the artery, under the action of a variety of ligatures.

DESCRIPTION OF THE EFFECTS OF A SMALL ROUND LIGATURE.

The internal and middle tunics of the artery are neatly and regularly divided; the cellular coat resists the action of the ligature, and is, consequently, brought into contact all around, being situated between the superior and inferior lips of the divided tunics. The cavities of the artery, above and below the ligature, are of a conical shape; the summits of these cones, formed by the lips of the divided membranes in contact with each other, oppose the infiltration of the blood into the cellular tunic. The pressure of the ligature is however completely confined to the cellular coat. The lips of the cut internal and middle membrane are kept in contact by the pressure of the external tunic, inclining them towards the centre of the vessel. This pressure, quite sufficient to close the artery, is not capable of destroying the vitality of the middle internal tunics. On the contrary, the cellular coat, on which alone the pressure is exercised, dies in that portion which is tied, by a suppurative inflammatory process. In about eight or ten hours after the application of the ligature, an exudation of concrete albumen or coagulable lymph takes place from the cut edges of the two membranes, which unites them to each other; this matter gradually increases in quantity and consistence; the column of blood forced against the part commences to deposit some filaments which form the foundation of a coagulum; the coagulum combines with the coagulable lymph, they unite together the borders of the division, but in so feeble a manner, that the least motion would suffice to separate them. But this is not the case twenty-four hours after the operation; this lymph has considerably increased in quantity, and has acquired a certain degree of organization; filaments are formed of sufficient strength to retain the lips in unison; such a condition of the parts as this seldom takes place before the fifteenth or twentieth hour. As the organization advances, the clot increases in size, and though at first deposited in little

"mamelons" becomes eventually a single coagulum. At this period the calibre of the artery is imperfectly filled by the clot, which contracts after its first formation, and by the passing to and fro of the blood in the interval between it and the artery, it suffers continual motion; gradually, however, a deposition of new matter in this interval increases the coagulum until the artery is completely stopped. The developement of the coagulum is always first in length, and afterwards in breadth. This being the case, it sometimes happens, that when the ligature is applied too near a large collateral branch the coagulum does not acquire sufficient size to fill the vessel, except in a small extent, whilst at the other part it remains small; at other times the clot remains free and floating in its whole extent, but the force which the blood exercises in passing between it and the internal surface of the vessel is not sufficient to detach the unctuous matter, which under irritation is more abundantly secreted, and forms as it were, a considerable layer. This unctuous matter serves to unite the clot to the vessel, as soon as, by their mutual increase, they come into contact with each other. The moment at which this union happens is various, but at whatever time it does take place, it is at first extremely feeble, soon, however, acquiring an evident consistence; at this period, organization and a change of appearance take place. The age of the individual, and the state of his constitution, are circumstances by which the rapidity or slowness of the organization are materially influenced. Youth and the adult age, or the sanguineous temperament, are favourable circumstances for rapidity of union, and vice versâ.

The growth of the coagulum is from its centre to its circumference, but its organization is in a retrograde direction, and the rapidity with which this takes place is in direct proportion to the active vitality of the vessel;—will be influenced by constitutional and local causes, such as an extensive separation of the artery and its sheath, by which it loses its chief source of nutrition. The first traces of organization begin to appear about six hours after the union of the clot and unctious matter effused by the internal membrane; this organization is indicated by a filamentous appearance, soon afterwards becoming areolar; the whole tissue becomes lamellated, but before the central portions become thus organized, some red stripes appear in the parts nearest to the artery. These are, I suspect, absorbent vessels taking away the colouring matter of the blood; when no colouring matter remains, these striæ lose also their colour, and become much more solid and resisting. Although the commencement of organization in the clot is so soon after the operation, its completion is frequently not before six or eight weeks, or even more. But while these changes are going on within the artery, others of a more simple nature are taking place in the situation of the ligature. In three or four days after its application, inflammation of the cellular tissue sets in, which, if the ligature be small and round, will be of the adhesive kind, and will tend to unite the superior and inferior extremities of the artery, which are brought into apposition by the effects of the ligature; the exception to this union is only the situation of the knot. The extension of this inflammation is ordinarily two or three lines on each side of the ligature; suppuration ensues, the first effect of which is to destroy the albuminous tissue which united the ends of the artery, and eventually the portion of the cellular tissue which was embraced by the ligature dies, and is discharged with it. The inflammation affects both ends of the artery; the

adhesions which united the base of the clots to the lips of the divided membranes are destroyed, the first measures adopted by nature to obliterate the vessel are thus done away with, and there remains but the clot and its connexion with the internal membrane, through the medium of the unctuous matter secreted, to save from consecutive hæmorrhage; hence the necessity of a large clot, in order to ensure a successful result to the operation, and hence the danger of proximity to a large collateral branch. This applies to operations on large vessels, or on those of middling size; when a smaller branch has been tied, a large clot is not of so much importance, as these branches appear to possess a greater degree of vitality, and consequently, a more intimate union is effected. If a clot be not formed, hæmorrhage follows the suppurative process of the cellular coat. The same will take place if a violent inflammation extend to to the coats of the artery, and thence to the coagulum.

OF LARGE, FLAT LIGATURES.

The application of these ligatures produces a singular modification of the phenomena which follow the operation. The parietes of the vessel are brought together with violence, otherwise the internal and middle membranes would not be divided; and when this is effected, it is so by a severe laceration of them, parts of them being torn off, so as to remain within the cellular membrane compressed by the ligature. In such a case, the divided membranes do not turn in upon one another, and are, consequently, ill situated for effecting adhesion. The coagulable lymph is effused outwards, instead of in a situation to come in contact with the clot. The union of the two ends of the artery cannot take place, in consequence of the distance of their separation by the ligature. The plastic lymph being effused without the cavity of the internal membrane, this membrane loses one means of adhesion, and there remains only that afforded by the unctuous matter which it secretes, and which is formed more rapidly when the small, round ligature is employed. The union of the clot with the lips of the divided membrane fails from the absence of lymph; on account of the want of this "point d'appui," the clot is formed much later, and increases much more slowly than in the former instance, perhaps on account of its greater mobility. But the other processes, which ought to be slower, are accelerated; the inflammation is more rapid and violent, on account of the size of the ligature; the suppuration is extensive and long-continued, so that it is probable that the greater quantity of the adhesion between the clot and the internal surface of the artery will be destroyed by the inflammatory process. Suppose, also, that the same distance existed between the ligatures and a large collateral branch in two operations, one performed with the small, and the other with the broad ligature—the advantage is greatly in favour of the former. But if other circumstances favour, such as the advanced age of the patient—diseased tunics of the artery, its isolation from the sheath in a considerable extent; all of which tend to retard adhesion, hæmorrhage is certain. If there be no large collateral branch to interfere with the formation of a clot, it is not impossible that, after a partial destruction of the first, another *may* be formed, but this must depend entirely on the favourable situation of the ligature with regard to collateral branches, and other circumstances in the condition of the patient. Here we have another

proof of the importance of applying a ligature as far as possible from collateral branches—an injunction which cannot be too strongly insisted on.

The Operation performed with the Interposition of a Foreign Body between the Ligature and the Artery. The object of this mode of treatment (first imagined and employed by Scarpa) is only to stop the current of blood in a vessel, in which it was supposed, consisted the whole art of effecting a permanent occlusion. The varieties of "prope-artères" at present known, are all modifications of Scarpa's instrument. What has been already said of the danger of foreign bodies in ligatures of arteries, of the contusion arising from the forcible application of large ligatures, applies more strongly to the present than to the preceding form of ligature. By Scrapa's method, if any object beyond the mere contact of the internal coat is attempted, a more irregular and contused separation of the two tunics is effected than by the flat ligature. But Scarpa, in his latest essay on the subject, has so far confessed the evil of his former plan, as to give rules for the application of the broad ligature alone, without the use of a compress, as was his original plan.

The limited adoption of the small ligature on the Continent, and the preference still given by some surgeons to the coarse and dangerous employment of Scarpa's instrument and the tribe of "prope-artères," have induced M. Manec to discuss the matter more fully than it would be to our advantage to do, considering the total disuse of the instruments in this country, and the preference almost universally given to the employment of the small, round ligature; we shall, therefore, terminate this part of the subject with the author's conclusions from the facts and experiments which he has enumerated, *i. e.* that the small, round ligatures are preferable to large ones, with whatever modifications the large ones may be employed; and that, notwithstanding the success which has attended the employment of other ligatures in the hands of some celebrated surgeons, it would appear that their success would have been far more extensive, had they substituted the small ligature for those to which they gave a preference.

Torsion of Arteries.

M. M. Amussat, Velpeau, and Thierry proposed, about the same time, the torsion of arteries as a means of arresting hæmorrhage. This is not the place to discuss the question of priority of discovery; we will examine the merits of the operation, and the preference which it deserves over that ligature. Each surgeon has his peculiar mode of operating: Amussat and Velpeau have only twisted the arteries in capital operations, or wounds of these vessels; Thierry proposes its employment in cases of aneurism. In these cases, M. Thierry passes a solid instrument beneath the artery, with which he afterwards twists it. If the artery be cut across, M. Thierry seizes it with a pair of pincers, the size of which is in proportion to that of the vessel, and with this he rotates it on itself, performing five or six rotations for small ones, and ten or twelve for those of larger size. Velpeau employs an ordinary pair of dissecting forceps; he seizes the end of the vessel, isolates it carefully from the surrounding parts, holds it with another pair of

forceps somewhat above its extremity, in order to fix it firmly, whilst with the former pair, he exercises rotation of the extremity.

M. Amussat employs two pairs of forceps, each so constructed as to hold the vessel firmly; with the first, he seizes the artery and draws it out, separating it from all its connexions; he then applies the second pair, the bite of which is round and without points, just above the extremity of the first forceps, presses it firmly, so as to divide the internal and middle membranes, and, when he supposes the division to be complete, he pushes the second pair upwards, in order that the two divided tunics may turn in on one another. At this moment, M. Amussat retains the second pair firmly fixed, whilst, with the first pair, he rotates the cellular membrane of the vessel, which alone has resisted the action of the second forceps. By these various means, the current of the blood is stopped; in the method of Velpeau and Thierry, by an obstruction formed by the ruptured middle and internal coats; in that of M. Amussat, by the reflexion of the same membranes upon each other. Thus, then, the current of blood is stopped; but this is not the whole question, otherwise a ligature would answer the purpose better than any other mode of operating. The question of importance is—does torsion of arteries diminish the danger of consecutive hæmorrhage? M. Amussat considers that this question may be answered affirmatively: because, says he, there is no foreign body left in the wound, but little danger of inflammation and suppuration, and the external wound very readily cicatrizes. But M. Velpeau, who has made very numerous experiments on this mode of operating, considers the cases for its application as extremely limited, and that, even in those, it has no real advantage over the ligature. In animals, *e. g.* dogs and rabbits (he has not tried it in man), he has found the subsequent inflammation longer and more violent than in the cases of ligature. Such an occurrence is readily explicable, for torsion is a more tedious, painful, and dangerous operation than ligature. We will examine the question as it affects the operation on the extremities of vessels, as after amputation. When it is desired to apply a ligature, a very slight traction of the artery suffices; but for torsion of the same vessel, it would be necessary to draw it five or six lines beyond the flesh; the vessel, in this state, must then be isolated from the veins and nerves which accompany it, a precaution scarcely necessary in ligature. Again, as torsion destroys a larger portion of the vessel than ligature (in the case of vicinity to a large collateral branch), there is greater danger of a clot of insufficient size being formed than when a small round ligature has been employed. But are the inconveniences of the operation compensated for by the advantages of its sequel? Far from it; inflammation and suppuration are as long, if not longer, than after ligature, and this may be explained in considering the length of the operation, the displacement of the connexions of the vessel in drawing it out and the presence of a foreign body, *i. e.* the end of the twisted artery, the vitality of which is destroyed by the pressure of the forceps, and which cannot be separated excepting by the joint operation of inflammation and suppuration, both of which are as great as those produced by the knot of a ligature. The operation of torsion is far more applicable to small than to large vessels; in the former case it is less tedious, the vessel is destitute of a proper sheath; a fewer number of turns are required, on account of the smallness of the vessel, hence it is not always killed in the

step of the process; but its use must be limited to cases of this sort, whils at the same time, even here, it can receive no greater commendation than the small, round ligature.

Ossified Arteries.

Besides these artificial means of stopping the current of the blood, there are some morbid processes which, in different degrees, produce a similar effect; such are, the production of cartilaginous and ossific deposits between the internal and middle membranes, and a squamous or steatomatous convex view of the middle tunic. These two conditions are very disadvantageous in the use of ligature, even when they do but begin to appear; and when they are more advanced, success in the operation is almost impossible; the middle and internal tunics have lost their vitality by the morbid changes, and the cellular coat alone is left to support the current of the blood; and this tunic sooner or later gives way, unless the formation of a coagulum be very much favoured, by the distance of a collateral branch. It becomes a matter of importance to decide on the best means to be pursued in these cases. If a small, round ligature be employed, the osseous plates are broken down into irregular fragments; the uniform pressure of the cellular coat, so advantageous in a healthy condition of the parts, is here prevented, and there is substituted for it an irregular and uneven pressure; in this state, a very slight inflammation and suppuration suffices to destroy any adhesions, and the formation of a clot and its agglutination are consequently prevented. For these reasons, the small ligature should be, in all such cases, proscribed. The only applicable mode appears to be, equable, moderate, well-regulated pressure. In these cases, from the change in the organization of the middle and internal tunics, no assistance can be expected from them in performing their normal offices; the cellular tunic alone remains, and it is necessary to protect this, as long as possible, from the effects of inflammation and suppuration. From these circumstances, it would appear that the method advised by Bayer is the most applicable, that of keeping up a moderate pressure, insufficient to destroy the vitality of the cellular membrane. But when an ossified vessel is found in an amputated stump, such a means cannot be employed, as too great irritation would be thereby produced. In these cases, the method of Dupuytren and Roux, of introducing a piece of bougie into the vessel, and over that an ordinary ligature, is the best. An inflammation of considerable violence often supervenes, and the effect is so considerable a destruction of the clot, that if it be not some distance from a collateral vessel, hæmorrhage must be the inevitable effect. Of course, in these morbid states of arteries, torsion is totally inapplicable.

Wounds of Arteries.

When an artery is completely divided, the cut ends retire into their cellular sheath, to the extent of from four to five lines to one inch. This contraction of the vessel, together with the feebleness induced by hæmorrhage, puts a stop to it, by closing almost entirely the mouth of the vessel. The effect of this is, the deposition of a coagulum within the vessel, which, in its organization follows the same laws as those which are formed after the

application of ligatures. Thus, the spontaneous cure of hæmorrhage following an entire division of an artery, is as complete as if a ligature had been employed. If a longitudinal incision be made in the artery of an animal, the blood escapes at first with force; but this does not, as in the former case, extend to such a degree as to effect complete exhaustion of the animal. The first action which takes place in the wound, is the inversion of the middle membrane, caused by its elasticity; the cellular coat is left loose, and agitated by every successive fit of blood. The force of the current is thus much diminished, and an effusion takes place into the surrounding cellular membrane. This forms a multitude of little clots, which, together, acting as one coagulum, close the mouth of the vessel. If a semi-transverse incision be made into a vessel, the hæmorrhage which follows is with more difficulty arrested than in the last instance; the clot is formed in a different manner, and has a different shape. When the animal is very much weakened, and, from its exhaustion, the blood almost ceases to flow, a little clot forms around the lips of the wound, which, increasing from the circumference to the centre, finishes by its complete occlusion. This clot never acquires great thickness; it leaves the cavity of the artery quite free, as in the former instance, and a temporary cure is the effect. In the case of incomplete division of an artery, the cure is but apparent, for the artery is not obliterated, and the least disturbance of the part will produce a movement in the clot; in the first case, or that of complete division, a permanent cure is effected. With regard to the after-treatment of operations for ligature of arteries, enough is said in other works on operative surgery; I will only add, that it is requisite to take great care that too much blood is not abstracted, as the plethora which exists is quite necessary to force the blood in the capillaries superior to the ligature, into those which are inferior. A sanguineous evacuation can only be useful, where there are congestions towards any organ of importance.

We have thus terminated our analysis of M. Manec's work. The experiments from which the author has drawn his conclusions have been necessarily performed upon animals, and must, of course, be received with some modifications in their application to man; but when we consider the difference of phenomena which show themselves in animals and man, under a similar irritating cause, we shall find the arguments which have been adduced in favour of one plan of treatment much strengthened. The degree of inflammation which is produced by any irritating cause whatever, and the consequent constitutional sypmpathies, are always in proportion to the perfection of the organization. In proof of this, may be mentioned the slight effects produced in animals by operations and injuries, *e. g.* the gelding of horses, the spaying of sows, the after-effects of which are comparatively trifling, the fracture of bones, which, in dogs, is producive of little more inconvenience than that which arises from the difficulty of moving; and, as we descend farther in the scale of creation, we find abundant illustrations of the same general law, until we arrive at those animals whose propagation may be, as it were, effected by their division, *e. g.* worms. Thus, if, in an animal, the use of one ligature (the small, round one, for example,) produce a much less degree of inflammation than that of another (the broad, flat ligature), how much is the objection to the latter increased when the argument is applied to man, in which it is fair to conclude that the inflammation would

acquire a proportionate increase. In the one case, the evil to be apprehended might be confined to that of the local inflammation; in the other, to the local affection might be added the danger of constitutional irritation; and thus, to state the case strongly, the selection of one or another ligature may be a choice between life and death.

VI.

Recherches sur le Me'chanisme de la Voix Humaine: Ouvrage qui a obtenu un Prix a la Socie'te' des Sciences Physiques et Chimiques de Paris. Par *F. Bennati*, M.D. &c. Paris, 1832.

Physiologists have studied, with peculiar attention, the formation of the voice in the larynx, and its subsequent modification by the tongue, lips, teeth, &c. which constitutes speech; but they have not investigated with similar care its various modulations in singing, when its full powers are called into action. In the search for instruments, the work of human hands, to which this most complicated piece of animal mechanism might be compared, the organ in which undoubtedly sound is produced has been too exclusively examined, and those parts have not been taken into sufficient account, which, from their intimate connexion with the larynx, must exert some considerable influence on the air which passes through them, after having been thrown into vibrations by the chordæ vocales. One physiologist has compared the organ of voice to a wind, another to a stringed instrument, and others to musical instruments combining both these powers; flutes, hautboys, violins, reeds, French horns, Æolian harps, and Æolians have, in succession, served as illustrations to explain the structure and action of an organ composed of cartilages, ligaments, muscles, and glands, lined by mucous membrane, which is constantly kept in a moist state by its peculiar secretion, and preserved in action only by a proper supply of nervous influence and by life. The pithy remark of Dr. Hunter, after enumerating the various cooking machines to which the stomach was compared, that "the stomach, gentlemen, is a stomach," will apply, perhaps, with equal truth to the larynx; nor can we see the force of the objection, that this mode of disposing of a subject, if followed up, would crush all investigation whatsoever; it merely laughs at absurd comparisons, and at attempts to explain the action and structure of vital machines, by reference to those of human workmanship, which have no similarity of structure or mode of action. Dr. Bennati considers that, in order to study with precision the mechanism of the voice in singing, the observer must be both a physiologist and a musician; that he must have paid particular attention to singing; must possess an organ of voice which enables him to make experiments constantly on himself, and that, from his peculiar acquaintances and from travelling, he must have been able to examine the organs of the most celebrated vocalists of the day. Fortunately, Dr. B. unites in himself these qualifications, and, according to

Cuvier's Report, "a reçu de la Nature l'une des voix les plus étendues que l'on connaise." In a note to a translation of a paper by Dr. Rusch, M. Bennati mentions that he was the pupil of the celebrated Pachierotti, so that he has not neglected the study of a voice which compasses three octaves. He has been engaged during 12 years in these researches, during which time he has constantly examined, not only his own organ of voice, but those of the most celebrated singers. The results he has embodied in a memoir read before the Royal Academy of Sciences, which was referred to Cuvier, Savart, and Prony. The report is drawn up by Cuvier; and, as it contains a lucid explanation of M. Bennati's views, as well as a summary of the information possessed by us on this point previously to this publication, we cannot do better than commence by making some extracts from it.

The principal object of this memoir is to explain the function of an organ in the modulation of the voice, to which physiologists have paid but little attention, that is, the velum palati, or rather that part of the throat bounded superiorly by the velum, inferiorly by the base of the tongue, and laterally by the arches of the palate. Fabricius of Aquapendente, a man of genius, whose works are at the present day too much neglected, mentions the contraction of the arch of the palate during the formation of acute sounds, and its relaxation under opposite circumstances. The explanation which he gives of the action of the muscles in producing this is erroneous, but the phenomenon is correct. Dodart does not even mention the fauces. Ferrin, after having placed the organ of the voice in the inferior ligaments of the glottis, makes a restriction, and allows that the chordæ vocales are not the organs of every kind of voice, but that there is a voice of the throat, and a treble of the same nature, which are produced by a new organ which he has discovered, and which he promises at a future time to explain; but, although he lived 30 years after this, no other paper on this subject appeared. Haller supposes that Ferrein referred to the velum palati, the motion of which, he does not doubt, must influence the modulation of sounds; but Haller does not enter into particulars, nor have subsequent physiologists been more precise. Such was the information on the action of the parts of the mouth in the modulation of sounds, when M. Bennati, who joins to his professional knowledge great practice in singing, and a voice of the most extensive compass, undertook his researches. He is satisfied that the tongue itself, by being elevated or depressed, or curved into a channel, exercises a powerful influence on the modulations of the voice, and that before the larynx can produce any intonation whatever, it is necessary that the os hyoides should be fixed in a certain position. He has ascertained, besides, that the notes improperly said to come from the head (voce di testa), or the treble, are owing almost exclusively to the strongest contraction of this upper part of the vocal tube, and he calls them, in consequence, super-laryngeal notes ("notes sur-laryngiennes,") and their union, "second registre," to distinguish them from the notes said to come from the chest (la voce di petto,) which he prefers calling laryngeal notes, and the whole of which he calls first "registre."*

* The word "registre" is usually employed to denote the stop of an organ. We shall adopt M. Bennati's own term, which with this explanation, will perhaps be the best understood.

He does not mean to say that the larynx does not act in the one, nor the fauces of the other, but only that the fauces play the most essential part in the notes of the second "registre." As to a third registre, which is mentioned in some systems of singing, he regards it as imaginary, and owing only to greater or less vibration of the last notes of the first, and of the first of the second. Those singers whose voice is formed of the two registres require more art to pass from one to the other, so as to unite them, and are fatigued more easily than the others. In the soprani-sfogati, who, by means of the second registre, pass the ordinary scale of soprano, the edges of the tongue become elevated, so as to form a semiconical cavity. In perfect soprani, whose voice is almost exclusively modulated by the first registre, the superior surface of the tongue is, on the country, rounded by the depression of its edges, and what is not less remarkable, it is one-third more voluminous than in ordinary individuals. It is to this influence of the tongue, that Dr. Bennati refers the greater or less fitness of different languages for music, according as the motions which are required by the more or less frequent return of certain letters agree, or are opposed, to those which are made by the tongue, and the anterior part of the mouth, for the projection of the note. In grave sounds, at the same time that the larynx is lowered, the velum is elevated and carried backwards, and the uvula is shortened, and becomes thicker. The contrary takes place in acute sounds; whilst the larynx is raised, the velum is depressed and carried forwards, the uvula becomes doubled on itself, and in the most acute notes of the second registre, it disappears entirely. Thus, the tenors-contraltini and the soprani-sfogati have these parts much more developed than the counter-tenors, and there are proportionate differences between the singers of other parts. Those who employ frequently the notes of the second registre, experience a feeling of fatigue at the velum, and if inflammation is the consequence it is confined to those parts; whilst those who make use in singing of the notes of the first registre feel fatigue in the thorax, and are more subject to inflammatory affections of the chest.

M. Bennati concludes by this proposition, that the muscles of the larynx are not the only ones which modulate the voice, but also those of the os hyoides, tongue, and soft palate; that, therefore, the organ of the voice is an organ *sui generis*, inimitable by art. This, although not entirely new, is an observation which M. Bennati has strengthened by fresh proofs; and M. Cuvier proposes that the Academy should testify their satisfaction to the author.

Dr. Bennati commences his memoir by stating, that the object of his researches is not the study of the formation of voice, nor the action by which it becomes speech, nor that more complicated one by which the inflection is modulated during declamation, but the modulation it undergoes during singing, which is distinguished not only by the calculated and harmonic succession of intervals, and the infinite variety of intonations, but especially on that property of song, of existing independently of speech, that is to say, of forming a complete discourse by the vowels, more or less modified. This high degree of modulation, which constitutes singing, is that which requires the most decided exertion, and the most numerous means of modification. Hitherto physiologists have, in accounting for grave and acute sounds, taken into account merely the internal muscles of the larynx, with the hyo-thyroi-

deus and sterno-thyroideus, which raise or depress it; they have omitted the investigation of the muscles of the os hyoides, of the tongue, and of the superior part of the vocal tube. Meckel has observed, when speaking of the action of the hyo-thyroid muscle, that it serves to elevate the larynx when the os hyoides is fixed above, but Dr. Bennati not only agrees with this, but asserts that the os hyoides is fixed during each sound, in order to facilitate the contraction of the muscles of the larynx, and, consequently, to bring out the notes. Indeed, if the muscles of the os hyoides were cut, or only paralyzed, the larynx, abandoned to its own muscles, would produce merely imperfect and monotonous sounds, both weak and cracked. These remarks are not merely hypothetical, but are founded on experiments on different singing animals, as well as on pathological facts, which it is the intention of Dr. B. to publish. The muscles which elevate the os hyoides in the modulation of the voice are the thyro-hyoidei, mylo-hyoidei, genio-hyoidei, the stylo-hyoidei, they act simultaneously with the major part of the muscles of the tongue, principally with the stylo-glossi, which, at the moment of their contraction, are assisted by the digastrici by means of an aponeurotic expansion, which passes from the tendon of these muscles to be inserted in the os hyoides. The genio-glossus, the linguales, and the hyo-glossus, particularly that portion of it which arises from the lesser cornu of the os hyoides, assist in its elevation. The influence of the tongue in modulation is apparent, even by the simple examination of the relations which exist between its muscles and the os hyoides, and between this bone and the larynx. Moreover, if the motions of the tongue are examined with attention during singing, it will be seen, during the acute notes, to contract at its base, and at the same time to become enlarged; and, in the highest exertion of the second "registre" of soprani-sfogati, its edges will become raised, so as to form a semi-conical cavity, the apex of the cone corresponding to the tip of the tongue. In perfect soprani, that is to say, in those gifted with a round, sonorous, and modulated voice, almost exclusively of a single registre, the tongue is elevated, contracted at its base, enlarged, with its surface slightly rounded by the depression of its edges. In general, during grave notes, the action of the tongue is less marked, and preserves almost entirely its position and its ordinary form, with the exception sometimes of a slight undulation. M. Bennati has derived these facts from the examination of the best singers of the time. In Mademoiselle Sontag, who is the most striking example, at the present time, of a voice of the highest pitch, and a facility of modulating the notes of the second registre, this cavity of the tongue is more marked than in any other soprano. A fact no less singular is that among singers whose voice is very sonorous, and confined almost exclusively to a single registre, the volume and dimension of the tongue are one-third greater than ordinary. Catalani, Lablache, and Santini are examples. The tongue of the last is the longest and largest that Dr. Bennati has ever seen; even when the genio-glossus is at its maximum of contraction, Santani can touch beneath his chin with the point of his tongue; in the acute notes its extremity is folded on itself, having nearly the form of a hook. Dr. B. has observed, in many singers, that the motions of the lower jaw, lips, and tongue, as well as sometimes certain grimaces of the face during singing, correspond, in some measure, to the internal motion of the muscles which constitute the vocal apparatus. From the striking coincidence which is met with,

on this head, in individuals whose voices are strong, sonorous, and of great compass, although confined to the first "registre," he concludes that this combination of motions is, most frequently, only one of the consequences of the ordinary mechanism of the voice. In confirmation of this the following case is related. Having frequently remarked that the Countess of M., a very distinguished amateur singer, when singing a certain note, inclined her mouth to the left side, Dr. Bennati was anxious to discover whether this arose from a bad habit, or from the peculiar mechanism of the organ. He therefore examined the superior part of the vocal tube whilst the lady sang the particular note, and he found that the motion of the mouth, and of the lower jaw, depended on the mechanism of the tongue, which instead of exhibiting the semi-conical cavity in its middle, presented it on its left side, that is, the side to which the tongue was drawn by the action of its muscles. As Dr. B. speaks many languages, he has studied the difference which the same musical phrase will produce when sung in these various tongues. This difference, when each language is equally well pronounced, is enormous, to the ear, if the Italian is compared with the English; it is progressive in difficulty according to the following order; Italian, Portuguese, Spanish, French, German, English. Thus their difficulty is the inverse of their melody and their charm. This is owing to the particular motions of the tongue and velum palati, as well as to the different modifications which the vocal tube undergoes.

But to return to the larynx. As soon as it is elevated, the simultaneous action of the hyo-thyroidei laterales, hyo-arytenoidei obliqui et transversales, thyro-arytenoidei, together with the contraction of the "thyro-aro-et glosso-epiglottiques," shorten the laryngeal cavity and the trachea. The air from the lungs being driven through the larynx in this state produces a sound more or less acute, according to the vocal power of the individual, but, to take a mean, not passing the "*sol*," the extreme limit beyond which it is impossible to pass, by the action of the above-mentioned muscles alone. The depression of the larynx is effected by the action of the sterno-thyroidei, sterno-hyoidei, and omo-hyoidei, and the larynx at the moment of the modulation is enlarged at the same time by the contraction of the crico-thyroidei, and of the crico-arytenoidei posteriores. In this instance, in expelling the air with more or less force, a grave sound is produced, which, by the assistance of the muscles alone, will compass "*do*," as a mean. Notwithstanding, it is known that the tenors-contraltini (or those whose high notes pass by means of the second registre the ordinary scale of soprano) and the soprani-sfogati in high notes can reach four notes more, or eight demi-tones; and baritenors and base singers in the low notes, can compass four notes more, or eight demi-tones. Since then, whether the larynx is elevated and contracted, or depressed and enlarged, it is insufficient to compass so extensive a series of modulated sounds, it is natural to conclude that it does not constitute the whole vocal apparatus. This, indeed, some physiologists have suspected. M. Savart explains very ingeniously the formation of the human voice; he shews that its production is analogous to that of the sound in the tube of a flute, and that the small column of air contained in the larynx, and in the mouth, is calculated, as well by the nature of the elastic walls which contain it, as by the manner in which it is thrown into vibrations, to produce sounds of a particular character, and at the same

time much lower than its dimensions would seem to permit. He has proved further, by numerous experiments on the voice of birds, that a mass of air contained in a tube whose sides are elastic or muscular can produce much lower sounds than those it could effect if the sides were solid. Following up the idea that the sound is at first produced in the ventricles, he endeavours to prove that the air which is contained in the vocal tube, ought always to resound in unison with the sound formed originally in the ventricles, and consequently that it should strengthen the sound in a decided manner. But as M. Savart only proposed to explain the mechanism of the human voice, he has not carried his researches further. Dr. Bennati has therefore endeavoured to examine the modifications, which under the influence of the will, the vocal muscles produce on the form and tension of the vocal tube, so as to strengthen in the most advantageous manner the sounds produced in the ventricles. To effect this object, it was simply necessary to observe the motions which were produced during singing, an effort requiring the strongest powers of the organ. He paid attention chiefly to the upper parts of the vocal tube. In grave sounds, he observed, that the soft palate was elevated and carried backwards, so as to take an arched form, by the action of the circumflexus palati and levator palati of the constrictor isthmi faucium, palato pharyngeus, mylo and genio-hyoideus, together with the styo-glosso-pharyngeus, which act simultaneously with the depression of the larynx; the uvula retains nearly its ordinary position, except that by the contraction of its azygos muscle it becomes thicker and shorter. Thus both the internal movement of the isthmus faucium, and that of the larynx combine during the production of grave sounds to have a freer course to the air, so as to give more volume and extent to the gravity of the sounds. Again, because grave sounds require more air than acute ones, and because expiration is more difficult to be regulated when the vocal tube has acquired its highest degree of shortening and of enlargement, the disposition of the parts is the least favourable for hindering the exit of the air. The contrary phenomena are witnessed during the singing of high notes. Then the velum palati, after being elevated, is depressed and carried forwards by the more vigorous contraction of the muscles previously enumerated in the modulation of grave notes; as in the latter instance these muscles acted from before, backwards, simultaneously with the depression of the larynx, so in the former they act from behind forwards at the same time as the larynx is elevated. The tonsils appear to swell out and approach each other; the uvula from the stronger contraction of its azygos muscle is folded entirely on itself, and in the most acute notes of the second registre entirely disappears. The aperture of the soft palate loses that arched form into which it was thrown during grave notes, and appears like a triangle slightly blunted at the apex. Singers with voices of great compass, particularly in acute notes, as Dr. Bennati has observed in the first tenors-contraltini of the age, David and Rubini, and in the most celebrated soprani-sfogati, as Mesdames Mombelli, Fodor, Lalande, Catalani, Sontag, Tosi, and others, have the superior part of the vocal tube infinitely more developed and more moveable than the counter-tenors, such as Lablache and Ambroggi. Dr. Bennati has lately examined the mechanism of the voice during ventriloquism, by means of a peculiar speculum. He finds that a ventriloquist always speaks with his superlaryngeal voice, which is peculiarly modified by a very curious

elevation of the base of the tongue towards the roof of the palate, whilst its point serves for the articulation of the words which the ventriloquist is accustomed particularly to employ. According to the nature of the voice is the feeling of fatigue which singers experience. Thus, Mesdames Mombelli, Fodor, Sontag, Tosi, among the sophranï-sfogati; David, Rubini, Gentili, and many others among the tenors-contraltini, are never more fatigued than after having sung those parts where the notes of the second registre are most frequently employed. This feeling of fatigue extends to the parts which compose the upper part of the vocal tube, without going beyond them. If this is increased by constant or forced exertion, a debility of the nervous system of these parts will be produced, or an inflammation, which sometimes will extend to the trachea, but which rarely affects the bronchia, pleura, or lungs. On the other hand, Lablache, Galli, Ambroggi, Santini, Nozzari, Crivelli, Mesdames Marianni, Catalani, and many others whose voices are almost exclusively confined to the first registre, although they may be of different kinds, after considerable exertion feel fatigue in the diaphragmatic and thoracic regions. If they continue to sing, this feeling of malaise may terminate in an inflammation attacking either the trachea, bronchial tubes, lungs or pleura. In this class of singers nervous debility of the parts composing the summit of the vocal tube is very rare. When there is only, in either case, excessive fatigue, astringent gargles and external alcoholic and camphorated frictions may hasten the cure which repose alone can effect. But as debility of these parts may be easily mistaken for inflammation from the similarity of the symptoms, great care must be taken in the diagnosis, for in treating a case of debility by either local or general antiphlogistic remedies, the disease will be augmented and may terminate in complete aphonia, of which, many celebrated singers of both sexes, of the present day, have been the victims. Besides the cases of David, and Mademoiselle Tosi, who have almost lost their voices from a treatment altogether contrary to their pathological condition, Dr. Bennati cites the case of Madame Mainvielle Fodor, whose treatment, carried a little farther, has deprived her of her voice altogether for many years. The following curious pathological fact tends to confirm M. Bennati's views. The Compte de Fredrigotti, one of the most distinguished amateur singers of the day (who is since dead) had an enlargement of the tonsils which prevented him, as he thought, from making use of the full powers of his voice. He consulted a French surgeon of eminence, and according to his advice, submitted to the extirpation of two-thirds of each of his tonsils, in order that his bari-tenor voice, to which he owed so much of his celebrity, might be rendered more clear, facile, and of greater compass. The consequence was, that his laryngeal voice (or first registre) became more clear and round, and was augmented by two notes, whilst four super-laryngeal notes, or those of the second registre were lost; proving, that an imperfection in the superior part of the vocal tube produced an imperfect action. Dr. B. is at present attending a young pupil of the "Conservatoire de Milan" (M. Carcelli), in whom, from angina tonsillaris, the tonsils have acquired so great a size, that he has found it impossible to sing, because his voice, which previously was of the ordinary compass of tenor, had lost its sonorousness and compass, and only reached ré "asigu," whilst he could, with the second registre reach five notes more than before. Wishing to avoid an operation, Dr. Bennati tried astringents

alone. At the end of fifteen days a marked change was produced in the strength and sonorousness of his voice, and he had gained two laryngeal notes; those notes of the second registre which he had acquired, from his enlarged tonsils, remained. The following practical application of these observations is not without its value. Dr. Koreff, to whom Dr. Bennati had communicated his ideas on this subject, had to open or cauterize an abscess of the tonsils. After having employed all the usual means of coming at the part, such as, pressing down the tongue with a spoon, which caused vomiting, Dr. Koreff directed his patient to sing the highest note he could reach, and whilst the superior part of the vocal tube was thrust forward, he applied the caustic with immediate relief. Dr. Bennati concludes his paper by giving some directions as to the management of the voice at puberty, and as this subject is connected with a pathological fact of practical importance, we shall make no apology for introducing it.

It is well known that at the age of puberty a remarkable change takes place in the voice; usually in man it loses a whole octave, unless from some local or general morbid cause, the parts which concur in the production of the voice become weakened. This weakness may also be occasioned by singing, which is very dangerous at this critical period, for it may injure the developement of the organ, either by partially or wholly paralyzing it, or by causing an inflammation which may produce complete aphonia. The following case is given in illustration. During the whole period of his change of voice, Donzelli, according to the advice of his master, ceased to sing, and he subsequently acquired one of the finest voices of the present day; Donizetti, one of his fellow pupils, at the same period, continued to use his voice, and in consequence lost it.

The succeeding directions for the instruction of the voice, although they come more properly under the province of the singing master, are not without their interest to the physiologist, from their furnishing additional proofs of the power we possess of educating the muscles. After having, in the first place, prepared the ear of the young pupils to relish music, which they must study mechanically until the age of seven years, it is necessary, as soon as they have been taught to open their mouths, and give them the most favourable form for the projection of sounds, to make them execute gently, and with a very slow movement, not whole gamuts, as is the usual custom, but only those notes which they can sound without effort. This lesson should not be continued more than a quarter of an hour, or half an hour at most, daily, according to the constitution of the individuals, lest the organs which supply the necessary wind, the lungs and its appendages, should suffer. By these means, the vocal muscles will be so trained as to act under the influence of the will, and, when arrived at their full developement, will have more flexibility and strength. This want of suppleness and elasticity is felt by those who have not commenced the study of singing at an early age. Crivelli, an excellent bari-tenor, who had not devoted himself to singing until his thirty-fourth year, could never, notwithstanding all his efforts, reach a note of the second registre. M. Bennati believes that the want of voice, which is so frequently complained of after the fifteenth or twentieth year, is occasioned by the anti-rational instruction of the organ during childhood; the most promising organic conformation being often spoiled by premature and forced exertions.

We have now fulfilled our task, and laid before our readers a complete analysis of Dr. Bennati's work, so as to enable them to judge for themselves whether he has proved the proposition with which he concludes, "that the muscles of the larynx alone are not the only ones which serve to modulate the sounds of the voice in singing, but also those of the os hyoides, of the tongue, and of the superior part of the vocal tube, without the simultaneous and proportionally-combined action of which, the degree of modulation necessary for singing would not take place."

The long period of time during which these investigations have been pursued, the opportunities which Dr. Bennati has enjoyed of examining the most perfect vocal organs, and his possessing so good a practical, as well as theoretical knowledge of music, are strong reasons to entitle his observations and inferences to the attentive consideration of physiologists. The few cases which he has related, and which bear out so fully some of his deductions, make us regret that they are not more numerous; perhaps the nature of the publication prevented him from stating more, and we shall look forward with much pleasure to a more extended work on this subject, in which he has promised to bring forward, not only his experiments on animals, proving several points which now can be regarded only as statements, but also, what are of much greater value, pathological facts, which are the most important bases of physiological deductions. The book is eked out with "reclamations," and observations upon them, but we must leave these touchy gentlemen to settle among themselves the honour of priority. The reporter to the Academy, who cannot be supposed to lean to either side, gives the credit of the modern investigation of these uses of the soft palate, &c. to M. Bennati; and as Baron Cuvier could not collect, from his inexhaustible stores of scientific learning, above a few passages, shewing that the older writers had ever thought of this part in connexion with the voice, we must allow M. Bennati the due merit of having first pointed out and investigated its great, and, we trust, its true importance.

VII.

Les Lois de la Revulsion. Par. *J. C. Sabatier*, M.D. Octavo, p.p. 146. Bailliére, 1832.

To this Essay was awarded the prize of the Society of Practical Medicine at Paris. The question proposed was in the following terms:—"What are the laws of revulsion? what is the assistance which the healing art may receive from it? and what the advantages and inconveniences of revulsive remedies, according to the cases in which they are employed, and the period of the maladies at which they are used?"

In a few preliminary observations, the author alludes to the distinction which was anciently made between the phenomena of derivation and of revulsion; the former epithet being used when the counter-irritation was produced near to the part affected with disease, and the latter when it was more

remotely applied. The Greek authors admitted four kinds of revulsion: 1, from the superior to the inferior parts of the body; 2, from the right side to the left; 3, from the anterior to the posterior parts; and, lastly, from the internal to the external parts. It is well known that Hippocrates invariably let blood from a part as near to the seat of disease as possible; and this practice was followed, till the Arabian physicians introduced the very opposite fashion of revulsive bleeding. The above distinctions are now no longer regarded; and, in the present day, the epithets are often used synonymously, as it is very obvious that there is no essential difference of meaning, bleeding being designated sometimes as revulsive—at other times as derivative. It has been proposed, however, to limit the former appellation to the action which counter-irritants produce on the skin, such as that of blisters, rubefacients, &c.; and the latter to the effect of medicines on internal organs as is exemplified in vomiting, purging, &c. Dr. Sabatier employs the term "revulsion" alone, and thus defines its meaning:—"It is that vital phenomenon, in virtue of which a morbid affection of any part is either gradually lessened or quickly removed, by a certain action being established artificially, or naturally in one or more other organs, situated at a greater or less distance from it;" and then he indulges in a long, uninteresting, and uninstructive disquisition on the properties of living bodies, and bewilders both himself and his readers by interpreting the meanings of such words as excitability, excitation, sensibility, and so forth; giving what appears to us most unwise, the preference to the term "sensibility" to denote that property of living animal matter, whereby its power and qualities are liable to be changed and modified from without or within; take, for example, the skin—it may become either more or less vascular, more or less hot, more or less susceptible of pain, more or less exhalant. The appellation of excitability or mobility would be certainly more correctly expressive. The author then endeavours to explain the perplexing term "irritation:" he tells us that it is always the immediate result of increased excitement in any part, and is accompanied with an afflux and accumulation of the fluids in the capillary vessels, which may gradually become so distended as to lose their contractility, and thus occasion a stagnation or stoppage of the minute circulation, giving rise to the state of inflammation. The mere increased flow of blood, which constitutes the state of irritation, is frequently a phenomenon purely physiological and consistent with health, as is exemplified in the erection of the penis, clitoris, and mamilla. On the other hand, the specific characters of inflammation are, 1, the extreme distension of the capillary vessels; 2, the swelling; 3, the tendency to disorganization of the parietes of the blood-vessels, the pain, formation of pus, or destruction of the vital powers of the affected part. When we talk of irritation as a condition of disease, we allude to that state of a part which exists between the transition from mere increased vascular action to absolute inflammation. In considering the subject of revulsion, we shall find that the means employed for this end, in some cases, produce simple excitement—in others, complete irritation, and, in a third set, inflammation and its consequences. These means may be thus classified into two divisions; as they are applied to the exterior surface of the body, and as they are exhibited inwardly; and these again our author subdivides according to the intensity or severity of their action; thus, sinapisms, stimulating embrocations, local hot-

baths, dry cupping, &c. induce more or less powerful irritation—the actual and potentical cauteries, the moxa, blisters and setons, cause much deeper irritation, and even considerable inflammation. On the other hand, the application of leeches and the scarificators is followed by an irritative excitement, with a certain congestion of the capillaries, and a discharge of blood; while the effects of electricity and galvanism are to merely increase the excitability or mobility of the parts to which they are applied.

The internal revulsive remedies may be similarly grouped, according to the degree of their action, into excitatives, such as diuretics, laxatives; and into irritatives, as drastics, emetics, &c.; and inflammatory, or phlogistics, as acrid injections and virulent drugs, such as mercury, antimony, &c.

We have already mentioned that Nature sometimes avails herself of revulsive modes of cure, as when she induces certain acute diseases upon an already-existing malady: thus, we observe that erysipelas of the face disperses vesicular, pustular, squamous, &c. affections of the skin in other parts, and accelerates the resolution of some swellings, and the cicatrization of ulcers situated at a distance—that an acute cutaneous disease often checks diarrhœa and bronchitis; and, on the other hand, that inflammation of the stomach and bowels causes any rash or eruption to disappear—that a purging will arrest a catarrh, and gonorrhœal opthalmia an attack of urethritis—that inflammation of the breasts will relieve hysteritis, and cynanche parotidea a hernia humoralis. To a certain extent, we can imitate many of the workings of Nature, as when we give sudorifics to stop a diarrhœa, or a drastic purge to cure an exanthema. But we return to the subject of external revulsives, and shall now adduce a few examples where the body, under the influence of disease, has resisted the ordinary operation of stimulating and irritative applications.

Case 1. A patient suffered from excrutiating neuralgia of the testicle and spermatic cord. The endermic use of morphia was ordered; and, to obtain a raw surface as quickly as possible, an iron, heated to 212° of Fahrenheit was firmly applied for some time to the skin of the perineum; but no effect could be produced, although the operation was tried several times.

Case 2. A young man was labouring under acute "ramollissement" of the brain; he retained (a circumstance rare in such cases) the power of moving his limbs, and also the sensibility of all the surface. Sinapisms, made very powerful and repeatedly applied, did not even redden the skin. The ointment of the tartras antimonii produced no effect; and a large blister on the scalp only a very trifling irritation.

Case 3. A patient had a very severe attack of erysipelas of the face. Mustard poultices and blisters were either quite inefficacious, or caused only a slight exhalation on the skin.

Case 4. A physician suffered a smart onset of acute rheumatism. In a few days a metastatis to the diaphragm occurred, threatening suffocation. The most powerful rubefacients quite failed in producing any counter irritation.

The same obstinate resistance to the ordinary effects of the remedies employed is occasionally observed in the internal exhibition of revulsive medicines. In colica pictonum and in paralysis, the most acrid drastics will sometimes utterly fail to purge; whatever very much exhausts the energies, and impairs the sensibility of the system, lessens in proportion its susceptibility of the action of revulsive agents: for example, a woman, weakened by a uterine hæmorrhage, was carried to the hospital, and in order to re-animate the circulation, strong sinapisms were applied to the calves of the legs for three hours; but no

redness ever was produced. In the last stage of many diseases, which are characterized by great debility, the most potent irritants are of no avail; and, as a general conclusion, Dr. Sabatier announces that the local action of a revulsive remedy is the more energetic, and its immediate effects the more obvious, in proportion as the part to which it is applied is more healthy and normal. We frequently observe that, although a counter-irritant fails in producing any effect at the time at which it was applied, no sooner are the symptoms of the malady relieved, than the irritation of the surface shows itself; thus, in the case of the patient on whom the heated iron failed to vesicate the perineum, when the severe neuralgia gradually abated, the part appeared to have been cauterized. In the third case above narrated, from 10 to 14 days elapsed before any redness of the thighs and legs, on which the sinapisms had been laid, appeared; this was followed by numerous vesicles, severe excoriation, and even gangrene at several points of the skin. The same consequences occurred in cases fourth and fifth, after an interval of three or four days from the application of the irritants. Our readers will be satisfied with the detail of the facts, and have, no doubt, little wish to be indulged with the "whys" and "wherefores" of authors upon the ænigmata of sympathies. Dr. Sabatier descants largely upon this topic, but we are not tempted to follow his example. His remarks on blood-letting, as a revulsive remedy, are pertinent and judicious, and place the question in a very fair point of view. He observes that, of late years, this most potent therapeutic agent has been almost entirely excluded from the domain of revulsion, although once it was regarded as by far the most important denizen: the cause of this mutability arises from the erroneous or ill-understood opinions of authors, on the precise meaning of the terms employed. If revulsion is admitted to take place, whenever any diseased organ is restored to a state of health, in consequence of a peculiar action being set up in another viscus or tissue, and in virtue of the sympathies between them, which either exist naturally or are produced by art, then we must regard bleeding as a revulsive remedy, since we know that it is capable of effecting such a result: thus, in a case of suppression of the catamenia, a plethora in the head often ensues—bleeding relieves such a state, and the discharge speedily is restored. The analysis of the effects of the remedy or modus operandi may be thus stated:—1. An evacuation of blood; 2. A diminution of the excitability of the system generally, and, consequently, of the brain; 3. Diminution and cessation of the cerebral plethora, and, 4, Restoration to a normal state of the circulation in the brain and in the womb; 5. Restoration of the healthy equilibrium in the functions of these organs; 6. Return of the catamenia. Such is the categorical announcement of the author, which, when tried by the logic of common sense, means that amenorrhœ, when depending on an overcharged condition of the vascular system, is best relieved by bloodletting, whether from the foot or arm it matters little; it is the simple effect of a known cause, and to this simple averment we should be contented to adhere. To call it a revulsive action, implies that the blood is diverted directly from the vessels of the brain to those of the womb, or perhaps rather to the vein which has been opened; but of this we have no proof, and we shall be more correct in simply stating, that less blood is now circulated through the uterine vessels than before the operation, and that it is entirely owing to this diminution that the discharge has returned. Now this, if true, is opposed to all our ideas of revulsion, the essential features of which is excitement or irritation of a part which is sound, to relieve one that is diseased. With regard to topical bloodletting by leeches, it is rather from the depletion which they occasion, than from any derivative congestion of blood in the part to which they are applied, that their benefit chiefly arises; in some cases, however, especially where the bites are followed by considerable pain and redness, they are entitled to be classed among revulsives.

A very common error among medical men, is to confound those remedies which deserve this appellation with mere irritants or stimulants. A few examples will best illustrate how

distinct they are in action and effects:—A blister to the chest in pneumonia operates as a revulsive; a blister to the scalp in low typhus fever, sinapisms to the feet in exhaustion from hæmorrhage, or to the stomach, in poisoning from narcotics, act as stimulants. Similarly contrasted phenomena are often induced by Nature; a chronic eczema of the leg has been cured by an attack of erysipelas on the part; scrofulous ulcers on the face and neck, many cutaneous diseases, and different sorts of tubercles, enlarged glands, &c. have disappeared from the same cause, and well illustrate the agency of a natural topical stimulant: and, reversing the case, we find that erysipelas, when it has been the primary disease, is often best cured by a blister, applied directly on the inflamed surface, as recommended by Baron Larrey. It must be obvious that it would be quite incorrect to designate such as examples of revulsive treatment. Were we to enumerate all the diseases, in which bonâ fide counter-irritants are usefully employed, very few in the nosological code would be omitted; in diseases of all structures and textures in acute and chronic, in general and local maladies, they often are most powerful remedies; it is only in such as are connected with, or are more immediately dependent upon, a change in the properties of the fluids, that their applicability or efficacy is not prominent and direct, as in scurvy, syphilis, &c. It is a matter of some importance, in the treatment of a case, to determine what are the situations to which revulsive can be applied with most benefit and relief, and we shall probably find it advantageous, in Dr. Sabatier's opinion, to adhere to the following rule.—At the commencement of an acute disease, in which some local symptom or symptoms predominate, they should be applied as far as possible from the seat of the malady; on the contrary, when the disease has reached its acmê, and in all chronic cases, the nearer that they are applied, so much the better. Certain portions of the surface of the body appear to sympathise very closely with certain others—thus, the skin on the side of one thigh, or of one arm, has an especial sympathy with the corresponding portions on the opposite limbs; and, from many observations of cutaneous pathology, it appears that the skin which borders on all parts covered with hair, has a particular consentaneous alliance, one portion with another, in a state of disease. An extended experience has led Dr. Sabatier to the following conclusions:—

1. In certain pulmonic diseases, revulsive remedies ought to be applied to the inner surface of the arm, or to the hams.

2. In cerebral diseases, to the soles of the feet or to the ancles.

3. In affections of the diaphragm, to the soles of the feet (the sympathy between these parts is well illustrated by the effects of tickling the soles).

4. in diseases of the peritoneum, intestines, and womb, to the inner surface of the thighs.

5. In stomach complaints, to the epigastrium.

6. To the nape of the neck in many maladies of the eyes, and in such nervous diseases as depend on a chronic inflammatory state of the brain or of its membranes.

7. To the sinciput, in amaurosis, and incipient cataract.

8. To the hypogastrium, in affections of the bladder.

9. To the mammæ in menorrhagia, and some other diseases of the womb.

Barther states that it is generally most advantageous to apply all revulsive agents on the same lateral half, right or left, of the body, as that in which the diseased part exists, as there is a most powerful mutual sympathy between all the organs situated on one side of the median line.

The author offers some sensible remarks on the employment of blisters in various diseases, and shews that we must not forget that they act as stimulants as well as revulsives, and, if injudiciously timed, will aggravate all feverish and inflammatory symptoms; the febrile irritation must be sufficiently appeased before-hand, and the affected organ be pre-

viously brought to that point, at which the new existing cause will not induce any renewal or increase of morbid activity, but will remove such as already exists in it.

Having pointed out the precautions which must be observed in the employment of revulsive means in acute diseases, he next proceeds to illustrate their efficacy in very many chronic cases, as in old affections of the joints and of the air-passages;—in hydrops pericardii (a seton;)—in obstinate ophthalmia, otorrhœa, rheumatism, disease of the spine;—in severe neuralgia; in paralysis, epilepsy, enlargements and congestions of the abdominal viscera, &c. Even in confirmed phthisis and in cancer of the stomach, they have been used with advantage, if not with success. M. Bouchard relates the following very interesting case.

A young girl, whose mother had died of tubercular consumption, was brought to Dr. Biett; she had the phthisical look, and was much emaciated; and occasionally expectorated blood. A distinct pectoriloquism, and a well-marked gurgling noise, during cough and deep inspiration, were heard below the clavicles; a cautery was ordered to be applied over the spot where the pectoriloquism existed; extract of conium was given, and a milk diet recommended: in a few months she recovered her strength and health completely. In such cases it is proper to encourage a free discharge from the ulcerated surface, for a considerable length of time.

Mr. B. Bell, in his work on ulcers, gives a very prudent advice, to establish a seton in the neighbourhood of the wound, after extirpation of the scirrhous mamma.

There is another class of diseases in which revulsive remedies have been used with advantage, namely, in hypertrophies; by leeches and scarifications in the early stage, and afterwards by the formation of an issue, seton, or other drain. We must refer the curious reader to the memoir of Baron Larrey on this subject, recently published in his "Clinique Chirurgicale exercée dans les camps, et les hôpitaux," tome III, 1830.

When rheumatism is transferred from any joint to an internal organ, Dr. Sabatier says that revulsives applied on the part originally affected, are the most "heroic" means of cure which can be employed, for example, very strong and acrid sinapisms, blisters and cupping. In retrocedent exanthemata their good effects are equally conspicuous; in such cases the most prompt and sure is a hot-bath, and this should always be had recourse to along with local applications. The following two cases we consider worthy of being detailed.

1. A young man had for two years suffered from severe colicy pains, which were accompanied with diarrhœa; the epigastrium was exceedingly tender, and especially after taking food; frequent vomitings and great emaciation; every sort of stomachic, anti-spasmodic, and soothing medicines had been fruitlessly tried. Dr. Bourdier, who was now consulted, ascertained that most of the symptoms followed soon after the healing of a large boil on the thigh; that they were generally mitigated whenever any small ulcers appeared on the toes, and aggravated when they were dried up; a blister was applied over the site of the boil, and sinapisms to the toes; and no sooner was a discharge established, than this patient began to recover, and speedily he was made quite well.

Case 2. A man had had for a long time an eruption on the fore-arm—this suddenly disappeared, and a discharge from the urethra came on. M. Petit, to whom he applied, at first thought that it was a case of gonorrhœa, but the man swore that he had not exposed himself to any contagion, and that his wife was free of all disease. On further questioning him, he told M. Petit, that he had been subject to the cutaneous affection; a blister was applied to the fore-arm; the "dartre" re-appeared, and the discharge immediately ceased.

Many spasmodic and nervous affections are best counteracted by revulsive agents;

thus, vomitings, which have resisted every other means, have yielded to sinapisms, or to moxas applied to the epigastrium; also hiccup, which in some cases is so distressingly obstinate, has at once been relieved by a scalding hot fomentation; and the same application is equally useful in cases of spasm affecting the neck of the urinary bladder.

In amenorrhœa, and many other maladies of the womb, no means afford so much relief as leeches applied to the upper part of the thighs, and to the vulva, and if the hæmorrhoidal flux has been checked, the anus is by far the most proper situation from which a topical bleeding can be promoted. In women who have reached the critical period of life, it is advisable that leeches be applied rather to the anus than to the vulva, in order, if possible, to act as a means of revulsion upon the circulation of the womb, which is then so liable to disease.

The following practical hint in the employment of the pediluvium, is worthy of attention.

When our object is to produce an afflux of blood to, and a temporary irritation of, the lower extremities, the bath should be made only moderately warm, and the temperature raised by gradual additions of boiling water, instead of immersing them in very hot water at first; the revulsion is thus more certainly obtained, and the system, especially of irritable patients, not exposed to any dangerous excitement. Instances have been known, in which apoplectic patients have suddenly died, while their feet were plunged in very hot water, in which mustard powder had been mixed; the impression on the nervous system, re-acting on the sanguiferous, had been too strong, and had aggravated the very condition which they had been intended to obviate.

We have discoursed so largely on the revulsive remedies which are applied externally, that we have not had space to do more, than simply to allude to the more prominent operation of such as are exhibited inwardly. Emetics and purgatives are often singularly useful in cerebral affections, and injuries; in amaurosis and ophthalmias; in inflammations of the mouth and throat; in croup, hooping-cough; in most cutaneous diseases; in dropsies of the different cavities and of the cellular tissue; in many anomalous pains of the limbs and of the trunk, &c. Other mucous surfaces may be acted upon by appropriate stimulants, so as to produce a revulsive effect. A sudden stoppage of a gonorrhœa has been followed by a severe neuralgia over the tendo Achillis, and has been as suddenly removed when the discharge was brought back by an ammoniated injection; the alternations of a urethral, and ophthalmic purulent flux are well known; and obstinate headachs, noises in the ears, wandering pains in the limbs, and many nervous maladies have speedily vanished, when a suppressed otorrhœa returned.

Such is a general view of the contents of Dr. Sabatier's essay. We have deemed it a wiser plan to give an analytical, than a judicial, or criticising review of its pages, as our readers will thereby be enabled to form their own opinions of its merits. We cannot, however, congratulate the author on having executed his task in the most philosophic manner. There is too much theoretical disquisition and dispute, too few facts, and little or no attempt to draw general principles from such as are adduced. This is the only method by which we may hope to arrive at the knowledge of general laws, such as the laws of revulsion, or of any other operation or function of the living body; for what else do we mean by the term "general law," but that a host of particular facts, or specialties agree in certain qualities or powers; and how, therefore, shall we become acquainted, except by guess-work, with the latter, unless we have accumulated and arranged the former? What our author ought to have done, is, to have amassed, and brought into a focus, every well established occurrence of revulsion, such as is observed in the re-establishment of a gonorrhœal flux to cure certain ophthalmias; the use of drastics and hydragogues in water of the brain; the formation of an issue in many chronic diseases, &c. and from these he ought then to have cautiously deduced the laws which are found to apply to them all. Our parting advice to Dr. Sabatier is "study the Baconian philosophy."

VIII.

NEW THEORY OF THE INFLUENCE OF VARIETY IN DIET, IN HEALTH AND DISEASE, &c. &c. By *Charles Cameron*, Surgeon, R. N. 8vo. pp. 104. Highley. Oct. 1832.

We like the motto which Mr. Cameron has placed on the title-page of his book,—"Nemo me impune lacessit." There is something as refreshing in it as in the air on the brow of Ben Cruachan—something as bold as the offer of Evan Dhu, when his chief was condemned to death at Carlisle, to clear the Court with his single claymore, if the judge would only give him that chance, and sit by to see fair play. We suspect that the faithful Maccombich would have been more successful in putting the Saxons of Carlisle to the rout, with his trusty claymore, than will his countryman, Mr. Cameron, in establishing his "New Theory," in opposition to the critics of the day.

Our author appears to proceed on the fundamental principle that man cannot be nourished completely by any one species of food, however rich in quality, unless that food can yield "all the elementary principles which enter into the formation of the human frame."

"The only article of diet which nature has provided for the use of man, capable of fully accomplishing this object, is milk. Milk alone, and no other aliment, contains all the elementary principles required for the restoration of waste, nourishment, and health of the human body; and the writer wishes *this* to be particularly borne in mind by the reader while perusing the following essay." viii.

But as all men cannot get, or may not like milk alone, for diet, the next principle is to *vary* the diet, that all the elementary constituents of the living machine may be therein found. Dr. Paris and others, indeed, maintain that,—

"As every description of food, whether derived from the animal or vegetable kingdom *is converted into blood*, it may be inferred that THE ULTIMATE EFFECT OF ALL ALIMENTS MUST BE VIRTUALLY THE SAME; and that the *several species can only differ from each other* IN THE QUANTITY OF NUTRIMENT THEY AFFORD, in the comparative degree of stimulus they impart to the organs through which they pass, and in the proportion of vital energy they require for their assimilation.' (See Paris on Diet,' paragraph 114), and (in paragraph 61) he says, that after the lapse of 24 hours—'the food has been decomposed, and recombined into compounds analogous to those which compose the organs to which it is carried; and *this appears to take place with the same facility*, HOWEVER REMOTE THE COMPOSITION OF THE ALIMENT MAY BE FROM THAT OF THE SUBSTANCES WITH WHICH IT IS ASSIMILATED.'" 9.

This doctrine, says Mr. Cameron, is not that of an individual, but of the whole profession throughout the civilized world. "It is a doctrine which has led man away from the truth for ages, and has exerted the most baneful influence over the practice of physic." After much good and specious reasoning on the superiority of milk and vegetables over other kinds of food, the author has recourse to a dangerous kind of support—prophecy.

"I have thus endeavoured to shew that there is one aliment provided by nature, and but one, which is alone capable of supporting human life without any other food. And although milk was evidently intended by Providence as the sole nutriment during the early period of our lives, and for this period only, it would, in every probability, support life at any period, with few other additional elementary substances—we shall say bread

and vegetables—far better than any other diet consisting of so limited a variety. It will also be found that those persons who use much milk as food are not subject to epidemic putrid diseases, in nearly the same proportion, as those who live in villages and towns, and use but little milk as an article of diet. In the country parts of Scotland, where people live chiefly on different preparations of oatmeal and milk, *I would venture to foretel with much confidence, that they will suffer but very little from the present prevailing epidemic cholera, or any other malignant or putrid disease, because these two aliments contain nearly all the elements entering into the formation of our bodies; and this, with some vegetable matter or fruit, and some table salt, would probably support life and health, better than any other diet which nature has provided for our sustenance, consisting of so small a variety of articles.*" 35.

The foregoing passage demonstrates that Mr. Cameron's book has been long in the press, and proves also, that he is an inexperienced author, otherwise he would have cancelled the above prediction, even at some expense, and not exposed himself to the jeers of some of those cynical critics who will not be slow to pluck the thistle, notwithstanding the threatening motto of "Nemo me impune lacessit." Although we are far from agreeing with the vulgar prejudice that cholera is produced by cabbage, or even by kail, yet we are much mistaken if the diet of the Scotch, like that of our Gallic neighbours, has not aggravated the mortality of a disease which attacks the digestive organs so fiercely. There may be more safety in the following passage.

"And secondly, I have attempted to shew that the general tendency of a continued course of any food, which is deficient in the variety of elementary substances requisite for repairing the waste of the body, is invariably to produce a diseased condition of the fluids and solids, and which may exist for a long period without attracting attention, but, if the cause be continued, will eventually end in that disease known as scurvy. That this condition, although noticed only by the initiated, is of very common occurrence in all our large towns, and is easily observed in the complexions of individuals while walking the streets. I would say, that at least one-tenth of the population are thus affected to a considerable degree, and one-third more or less so. If they be examined while labouring under the influence of this condition of the body, it will be found that their complexion is of a dark, tawney, unhealthy hue. Their gums will be found swelled, and tender, and their tongue of a purple shade, which is quite characteristic, although not conspicuous, in the earlier stages of the affection. Their skin has a great tendency to assume that appearance which has been denominated 'goose skin;' and if the weather be cold, small brown or dark spots will be observed at the roots of the hairs. These symptoms would soon terminate in evident scorbutic disease if the cause would continue in operation. But it would seem, that at this stage of the affection the natural instinct of every man, who is a free agent, becomes so urgent in prompting him to endeavour to procure such aliment as he is deficient of, and which is of course the very aliment which nature at this moment requires for repair of waste and support; that nothing except the most urgent necessity can oppose him in obtaining it. Thus the affection of the constitution is prevented from getting worse, and may be in the same manner prevented for years; and the appearance of prominent scorbutic symptoms are also prevented, but the habit continues sufficiently depraved to favor the attack of any disease that may happen to be prevalent or epidemic; and to enable that disease, whatever its nature may be, to become much more malignant and fatal." 37.

Mr. Cameron justly remarks that instinct has a much more extensive influence on our habits and feelings than our vanity, assisted by erroneous ideas, will allow us to admit.

"We see daily examples, where, if a person has continued for some time to live on any

particular species of aliment, he will gradually begin to loathe this diet, and experience a craving for some other article of food. Here we mark the force and use of instinct. The elements of the food on which the individual has been living not containing all the ingredients required for the nourishment and health of his frame, vitality finds out this secret, and taking the alarm before much injury is done, communicates the important information, in some mysterious manner, to the stomach; which after the receipt of such intelligence, refuses, as far as possible, the former aliment, and loudly demands a change of diet." 37.

Mr. Cameron conceives that, from the structure of the teeth and digestive organs, it is evident that "man was not intended to be carnivorous, *except in a slight degree*, and only to a limited extent." The author should recollect the case of the South Americans, who live almost exclusively on meat, and the Irish, who feed almost entirely on vegatables, yet both continue in good health—at least in as good health as John Bull, who is a truly omnivorous animal.

Of Mr. Cameron's disputation with Dr. Stevens we shall take no notice.

"That cholera makes its attacks only on persons affected with the depraved habit of body under consideration, will not admit of any doubt; indeed the affection seems to be incompatible with any other state of the constitution. The doctrine of contagion in this disease is as idle and silly as any legend ever invented by the elders of catholicism, to impose the belief of the perfection of their saints on a weak-minded, ignorant, and credulous populace. It is also a mistake to suppose that the disease is new to this country. That cholera is now more frequently met with than at any former period is evident, but it has been at all periods and ages common enough in England. I have seen it here years ago, as strongly characterised as I ever saw it in India, even in 1817-18. The only case of cholera which has hitherto proved fatal under my care was at Woolwich, in March 1826. The patient had incessant vomiting and purging, spasms, total suppression of urine, and livid colour of the skin all over the body. He died in about ten hours after I saw him, and about twenty-three hours after the attack commenced. When I began the treatment of this case, I had reason to fear that venesection was too late. I knew the disease well. I had seen a great deal of it in India previous to this period." 97.

Mr. Cameron concludes his volume thus:—

"Let man, therefore, return to the diet which Nature intended for him, and which is evidently much better adapted to his wants; let him use a much smaller proportion of of animal food, and a much larger of the farinaceous grains, as preparations of wheat, oats, barley, rye, &c. Let milk form part of his aliment and let him add to this as much of the common vegetables, and fruits in season, as his instinct will prompt him to. Let him avoid spirituous liquors except as a cordial. Let him do all this, and he will enjoy far better health than he does at present. All epidemic, pestilential, malignant, and putrid diseases, will disappear: and many now considered as contagious or infectious, will be no longer known on the face of the earth." 104.

It is not our intention to make many comments on Mr. C's book. Few will disagree with him, that it is desirable as well as pleasant to vary the quality of our food, and to range through the animal and vegetable kingdom in search of variety. It is also very probable that we eat much more animal food than is necessary or proper,—and, consequently, that, in civilised life, we predispose the constitution to many inflammatory and other complaints; but that any plan of diet which Mr. Cameron could devise, would cause epidemic diseases to disappear, is more than we can believe. We wish Mr. Cameron may realize his anticipations, and continue to be as successful in practice as he appears hitherto to have been.

IX.

Lectures on Anatomy. Interspersed with Practical Remarks. Vol. IV. By *B. B. Cooper*, F. R. S. Surgeon of Guy's Hospital, &c. &c. &c. Large Octavo, pp. 383, four Plates. Longman's, London, 1832.

This is the concluding volume of Mr. Bransby Cooper's System of Anatomy. He has redeemed the pledges which he gave, and the work is now complete. We have on former occasions spoken in a very favourable manner of the first three volumes, and yet we have not bestowed on them more commendation than they merited. The volume before us does no dishonour to its predecessors, in fact it may be looked on as the best. We expressed our belief that Mr. Cooper's Anatomy would prove a popular one, and our anticipations have been fulfilled. Now that it is completed, we entertain no doubt that it will become a general favourite with students. We have given samples of the other volumes, and in justice we should do the same by this. They must be taken in a great degree at random, and therefore may not be the best that could be selected. In order to illustrate the descriptive portion we may just insert Mr. Cooper's short account of the spinal sinuses and vertebral vein, the former of which, strangely enough, are seldom noticed in manuals of anatomy.

"*Ramus venosus vertebralis*—is made up of ramuli corresponding to the distributing ramuli of the arterial ramus. It commences principally by small ramuli from muscles in the occipital and posterior cervical regions, and there forms itself into a large trunk, which takes its course with the vertebral artery upon the posterior circular ligament between the atlas and occiput; it passes forwards to gain the foramen at the root of the transverse process of the atlas, near to which it is united with the lateral sinus of the dura mater, by a venous ramulus, which passes through the posterior condyloid foramen. The ramus venosus vertebralis then descends through the canal formed by the transverse processes of all the cervical vertebræ, being accompanied by its corresponding artery. In this course it anastomoses internally, through the intervertebral foramina with the sinus venosus; and externally, it receives in each intervertebral space, venous ramuli from the muscles of the neck. This ramulus issues from the canal of the seventh cervical vertebra, and descends by the side of its accompanying arterial ramulus, between the rectus capitis anticus major on its inner side, and the scalenus anticus on the outer. In this space receiving venous ramuli returning the blood from the ramulus cervicalis profundus; then it passes, on the left side before the subclavian artery, and on the right side behind that vessel, to terminate in the subclavian vein." 137.

Ramuli venosi spinales, vel sinus vertebrales—take the course of the whole of the vertebral canal, from the sacrum to the occiput, behind the bodies of the vertebræ, anterior to the theca vertebralis, and on the sides of the common proper posterior ligament. They commence from the venous ramusculi in the adipose tissue of the sacral canal, and are augmented by ramusculi from the dura mater, enveloping the spinal marrow along the whole length of the spinal column. In this course they anastomose with the venous ramusculi of the lateral sacral, lumbar, and intercostal rami, on their outer sides; and on their inner sides, by short vessels with each other, on the bodies of the vertebræ, underneath the posterior vertebral ligament, where they receive ramusculi from the substance of the bodies of the vertebræ.

These ramuli venosi are called sinuses, because they have short communicating cross-tendinous bands in them, similar to the sinuses of the dura mater. They communicate with the rami jugulares interni, opposite to the anterior condyloid foramina.

The ramuli venosi spinales, appear to contract opposite to the fibro-cartilages, and to enlarge upon the bodies of the vertebræ, hence they have a knotted appearance, which is more particularly observable in the lumbar region." 145.

The following is a specimen of the physiology of the nervous system.

"To M. Serres, we are indebted for the light which he has thrown upon the cause, which immediately regulates the growth of the whole nervous system; and this he has found to depend upon the distribution of the arteries. Thus he has observed, that the spinal marrow is produced by the intercostal arteries, which are the first formed blood-vessels in the fœtus; the cerebellum, by the vertebral; and the cerebrum, by the carotid arteries. In these formations, the cura cerebri and tubercula quadrigemina, follow that of the spinal marrow; the cervical region of which is first formed, by the branch of the superior intercostal artery, which enters the vertebral canal. The vertebral artery arrives the last within the cranium, and the cerebellum is therefore the last organ apparent in the formation of the encephalic organ of all classes. Following the arterial order of nervous developement, it is observed that the cerebellum is formed from behind forwards, and the cerebrum, on the contrary, from before backwards; according, in the first instance, with the vertebral artery, which enters at the posterior part, and is directed from behind forwards; and in the latter instance, with the internal carotid artery, which after passing the turns of the cavernous sinus, reaches the anterior part of the brain, and proceeds from before backwards, according to the progress of the formation of the cerebrum.

Hence also the corpus callosum, and anterior part of the fornix, are developed from before backwards, following the progress of the artery; while the posterior part proceeds from behind forwards, with the posterior cerebral artery.

In animals, the developement of the cerebrum and cerebellum, results from the general relation in this union of the vertebral and carotid arteries; and the comparative size of the brain and spinal marrow, appear to depend upon the respective calibre of the arteries which supply these parts with blood. Thus when the spinal arteries are large, the more the spinal marrow is developed; and the more the vertebral and internal carotids increase in size, the greater is the developement of the brain. And it is remarkable, that these structures bear an inverse ratio in their formation, which does not depend upon the preponderance of any portion of the nervous matter in the spinal marrow, but entirely upon that law of life which has regulated the distribution and course of the sanguineous system.

This, as a general principle, is applicable to the nerves in all parts of the organismus.

Thus the great sympathetic nerve diminishes in proportion to the decrease of the sanguineous system.

The size of the middle sacral artery, regulates the dimensions of the caudal prolongation in all animals.

The appearance of the extremities, and their nerves, also depend upon the calibre of their respective arteries: thus the axillary arteries in bimana, and the femoral in bipeds, are those which attain the fullest developement. So in the head, the developement of the face and the brain depend on the volume of the external carotid in the former, and of the internal carotid in the latter. Where the external carotid is large, the face and nerves of sense are extensive.

The ophthalmic artery, however, is always in proportion to the size of the external carotid; from which circumstance, the volume of the eye is still regulated according to the extent of the organs of smell and taste.

Tracing the formation of the nerves themselves, their first appearance is in the form of globules of medullary matter, deposited in the cellular and mucous tissues; these increase and unite in centres of communication, which form the ganglia: from the ganglia, cords communicating with each other, are next seen taking the course of the larger blood-vessels. This organized state, is first apparent in the semilunar ganglion; and after the ganglia, then the centres of communication of the voluntary nerves appear; and lastly, the nerves destined for the higher powers of voluntary motion and sensation." 168.

M. Serres' reasonings do not appear to us to be conclusive. It may be true, and no doubt it is so, that the volume of the nervous mass bears a relation to the size of the artery, but it does not therefore follow that the efficient cause of the magnitude or otherwise of the brain or medulla exists in the arterial developement. When a tumor springs up the blood-vessels enlarge, but the enlargement of the blood-vessels was not the cause of the tumour; on the contrary, it is more reasonable to suppose that its growth necessitating an increased supply of blood, was the cause of the augmentation of the vessels. The final cause of all such processes is evident, the efficient cause has ever baffled human scrutiny. The sanguineous system being the system of supply, there must necessarily be a consent between the natural growth or unnatural developement of parts and the media of supply. If there were not, the economy would not be what it is, but the different systems composing the body are so dovetailed with each other, that it is scarcely philosophical to give precedence to any in the operations of growth. At the same time that we feel indisposed to agree with M. Serres altogether in his theory, the facts which he mentions are highly deserving of attention.

The only other topic to which we can advert is Mr. Cooper's notice of M. Foville's investigations of the anatomy of the brain. They will probably be new to most of our readers, and therefore we feel no hesitation in quoting Mr. Cooper's account.

"Dr. Foville, of Rouen, has also added some important facts to our knowlege, respecting the anatomy of the brain, and has supported his doctrines by numerous pathological facts.

In a demonstration which he gave at Guy's Hospital, in 1830, he stated, that he considered the corpus callosum was not produced by the transverse fibres of the hemispheres running across from one side to the other, forming a complete commissure, as stated by Gall and Spurzheim; but that it is produced by the corpora pyramidalia, after they have entered the corpora striata, rising up and forming a union in the middle line above the striated bodies and thalami—thus forming the corpus callosum; while another portion passing downwards, and then upwards to the middle line of the corpus callosum, where being only slightly separated from a similar structure or plane of medullary matter in the opposite side, produces the septum lucidum and fifth ventricle; while a third portion, passing laterally, goes to the hemispheres of the brain. To explain this better, it will be necessary to trace Dr. Foville's view from the spinal marrow; which is composed of two symmetrical portions, each formed of an anterior, posterior, and middle column.

The portion of the spinal marrow named the medulla oblongata, forms several enlargements; one part of which is prolonged into the cerebrum, another into the corpora quadrigemina; and the corpora pyramidalia, to the cerebrum: the anterior fibres of the corpora pyramidalia decussating.

In the cerebellum, the corpus restiforme unites with the processus ad testes and the tuber annulare, forming a mass, which expands into a plane extending from within outwards, to the cineritious matter, where it lines all the folds formed in the cineritous exterior.

One part of this plane passes backwards, from without inwards; and with its fellow from the opposite side, forms a commissure in the processus vermiformis, analogous to the corpus callosum, or commissure of the cerebrum.

The corpora olivaria, form two bundles of fibres, which may be traced to the tubercula quadrigemina.

The corpora pyramidalia, each forms two bundles of fibres—the anterior of which only decussate; the posterior continue to the superior transverse fibres of the tuber annulare, and rest upon it, while their upper surface forms the floor of the fourth ventricle. These two bundles are separated from each other by the corpus niger, and proceed nearly parallel till they diverge in the corpora striata, and thalami nervorum opticorum; and form a large plane, directed obliquely outwards and upwards, of nearly a triangular figure, bounded by two straight and one curved line. The two sides of the expanded crus, or plane, form the two straight lines; the corpus striatum and thalamus, the curved line to the outer side of the ventricle—to which the expanded fibres diverge as to a circumference.

From this circumference three separate planes proceed, forming three layers, one above the other, at their origin.

The first or superior of these planes, rises on the outer side of the corpus striatum, and thalamus, at first nearly vertically; it forms a slight convexity outwards, and then bending inwards horizontally towards the mesial line, unites with its fellow to form the corpus callosum.

The corpus callosum, therefore, proceeds from the crura cerebri, and has nothing to do with the hemispheres; they form a true commissure to the crura cerebri; but Dr. Foville observes, that he has not ascertained whether the fibres of the two sides cross or anastomose with each other.

The second plane or central one, immediately beneath the former, at first ascends parallel with, and applied to that of the corpus callosum; then it separates, and is reflected inwards, nearly in a vertical direction, until it reaches the cineritious substance of the most elevated part of the hemispheres, along its whole length, when the convex external and flat internal parts meet each other. It lines the grey matter, following all its folds in the form of a white layer, of which the fibrous structure is not so evident as that of the plane itself. The fibres of this layer, therefore, diverge towards the circumference, and converge towards the crura, of which they are a continuation.

The third plane, is of less extent than the two preceding; it proceeds from the same line with them, and descends to the outer side of the inferior half of the grey substance of the corpus striatum, invests it below, and advancing inwards, meets the corresponding plane from the opposite side, and then ascends, forming the septum lucidum of the ventricles. Some of the fibres of this plane do not pass directly to the septum lucidum, but pass backward, reach the extremity of the cornu ammonis, and becoming continuous with the corpus fimbriatum, pass into the fornix, and form a second communication with the septum lucidum. Other fibres pass and form an expansion, especially destined for the temporal lobe of the hemispheres.

From these interesting anatomical points, Dr. Foville considers that the cerebellum is the central organ of sensation; the tubercula quadrigemina, of the influence of organic life; and the cerebrum, of motion; and that the mind resides more particularly in the cineritious matter, as a precipient centre: and considers the medullary part of the brain as the nerves, conveying the influence of the will from the sensorium to the exterior of the body, or parts of motion, and conveying to the sensorium the impressions of the exterior senses.

As physician to a large lunatic asylum at Rouen, Dr. Foville had an opportunity of examining frequently the brains of those who were the subjects of different kinds of madness; from which he was led to divide mental derangements into three classes. Those depending on false impressions, in which the medullary portions were found diseased, and hence their powers of conducting proper impressions deranged; those depending on a troubled state of mind itself, in which the cineritious portions were diseased; and in those depending upon paralysis of the insane, he found the cellular membrane connecting the fibres of the medullary part of the brain so altered by inflammation, that its structure could not be unravelled.

When extravasation of blood has occurred into the brain, Dr. Foville has seen paralysis recede as the blood became absorbed, and recur at intervals if the disease tended to farther extravasation, either of blood or serum. He also brought forward several cases, to prove that the motions of the lower extremities depended on the integrity of the thalami, and of the upper extremities on the integrity of the corpora striata; and one case in particular, where a surgeon, on putting on a ligature around the axiliary artery, included some or one of the axillary nerves; the result of which was an abscess in the thalamus, and consequent death. In diseases extending from the corpora striata to the thalami, the lower extremities are first affected, and then the upper." 183.

In conclusion, we again express our warm approbation of Mr. Cooper's work, and can conscientiously recommend it to English students of anatomy.

X.

The Effects of Arts, Trades, And Professions, &c. on Health and Longevity. By *C. Turner Thackrah*, Esq. Second Edition, 1832.

The force of events has drawn the attention of all men to the condition of the working classes of this empire. Forming its numerical and actual strength, giving it by their mechanical dexterity its commercial power, the stranger might imagine that our millions of agriculturists and artizans were tolerably prosperous and comparatively happy. A little experience corrects his mistake, a little observation shews how widely remote from comfort is the life of the mechanic. Born to labour, he is doomed to the factory almost before he is begotten, and the squalid urchin picking flax or cotton is the type of the future man. Those best acquainted with our great manufacturing districts can appreciate, and they only can properly appreciate, the amount of human misery, and the sacrifice of human life, offered up to the Moloch of gain. A peasantry, their country's pride, exist but in the poet's song, or are represented by the gaunt yet abject being, whom the open day sees crawling from the plough-tail to the poor-house.

The sickly sentimentality which could not tolerate a close consideration of the vices and wretchedness of the poor is chased away by the necessity of the case, and the question of relief becomes more urgent, and yet more difficult, in each succeeding year. There is a canker in the very core of England, and human wisdom does not know how deeply it may eat. There

never was a state of society resembling that which exists at present in this happy land; there never were at once so much affluence and so much poverty—such a contrast of luxury and starvation—of ease and gaiety and utter hopeless misery. What the remedy for this unnatural condition of things may be, it is not for us to inquire; but, unfortunately, it falls to the part of the medical practitioner to witness too much of this moral and physical degradation of the labouring classes.

Mr. Thackrah deserves great praise for the manner in which he has drawn attention to their sufferings, for the feeling with which he has portrayed their unhappy destinies. Whilst philanthropy is esteemed honourable, his work on the Diseases of Artisans will redound to the credit of his head and his heart. We noticed the first edition of his work in a former number of this Journal, and it merely remains for us to cull a little of the new matter by which it is now enriched. The present edition contains the investigation of 120 employments, which previously were not examined. This is a more solid recommendation than all second editions now-a-days can boast of. We shall select some of these employments for notice. We shall begin with that poetic archetype of innocence, happiness, and health—the husbandman.

"HUSBANDMEN stand at the head of this division. Spending the day in the open air of the country, and in labour varied and good, they are well known to be generally healthy. Though exposed in many parts of their employment to the vicissitudes of the weather, they seldom suffer serious injury. The dyspeptic and nervous disorders, and the long train of chronic maladies so frequent in towns, are almost unknown in the country. But on the other hand, Epidemic Fevers, Cholera, Diarrhœa, and Dysentery, are certainly more severe, and I think more frequent among agricultural peasants. The purity of the air I conceive to produce both these states,—to subject the husbandman to dangerous epidemics, as well as to exempt him from chronic diseases. Epidemics, it will be remembered, depend on a *natural* change in the constitution of the atmosphere,—some alteration, possibly, in its chemical elements, some alterations probably in its electrical state, some addition most probably of terrestrial exhalations. This baneful change or addition, whatever may be its precise character, is of course a *natural* change or addition, and will be most felt where the atmosphere is most natural. The Epidemic miasm, travelling on the wind, sweeps over the country without obstruction, but is checked by towns and crowded population. For here the atmosphere is so largely impregnated with animal effluvia, smoke, the dust and gases of manufactures and arts, that it can be but partially affected by the addition from without; and the townsman consequently inhales only a diluted miasm. So far he has the advantage of the countryman; but shortly we shall have to turn the scale by reference to the numerous and distressing civic disorders from which the husbandman is exempt. The sporadic diseases chiefly found in agricultural districts are inflammation of the lungs, pleurisy, and rheumatism, or rather those painful affections of muscles to which the term rheumatism is popularly applied.* With the exception of the labourer's debauch at a fair or feast, or the master's taking too much after market, husbandmen are generally temperate. I scarcely need add that longevity is more marked in this than in

* "*M. Patissier*, in his Traitè des Maladies des Artisans, states Husbandmen to be 'tres-sujets aux pleurisies, aux pèripneumonies, à l'asthme, aux coliques, aux erysipèles, aux ophthalmies, aux esquinancies, et aux rheumatismes, qui reconnaissent pour cause occasionelle l'air et la mauvaise nourriture.'"

any other class of society. Before concluding the subject, I must notice the inhabitants of Fens. Here ague is well known to prevail; but of late years, draining has greatly diminished the frequency of this malady. In one district of Lincolnshire, where navigable canals have vastly reduced the swamps and ditches, we were informed that the number of cases of ague are not more than one-tenth of their number twenty years ago. Chronic diseases of the spleen and liver are occasionally met with as effects of ague, or of the causes which produce it.* In the marshy districts, Pulmonary Consumption is extremely rare. A general practitioner at Swineshead has seen only two cases in sixteen years. Instances of longevity are frequent. In one village in the neighbourhood of the Fens, and containing not more than 120 inhabitants, there are now eight persons nearly 90 years of age." 10.

We fear that this picture of a husbandman, or, to use the more modern phraseology, of an agricultural labourer, is too favourable for many parts of England. Gibbon Wakefield's portrait of the poaching, stack-burning, calveless, abject wretch, is nearer the mark, in the southern counties. There can be no doubt that, with a moderate supply of healthy aliment, the occupation of the husbandman must be among the healthiest, if not actually the healthiest of human toils. It is curious that epidemics should exert their influence more ferociously in the quiet salubrious village, than in the densely peopled unwholesome city. We suspect that Mr. Thackrah is not right in the cause which he assigns for this, and indeed we are far from convinced that the law is so general as he imagines. When a village is invaded by an epidemic more severely than a town, it is probable that some peculiar predisposing or assisting causes are in operation in the former, rather than that the actual purity of an atmosphere should render it pernicious. At all events, it would require many facts to obtain implicit assent to the enunciation of such a law.

Brass-founders.

"They suffer from the inhalation of the volatilized metal. In the founding of *yellow* brass in particular, the evolution of oxide of zinc is very great. It immediately affects respiration; it less directly affects the digestive organs. The men suffer from difficulty of breathing, cough, pain at the stomach, and sometimes morning vomiting. The brass-melters of Birmingham state their liability also to an intermittent fever, which they term the brass-ague, and which attacks them from once a month to once a year, and leaves them in a state of great debility. As a preventive they are in the habit of taking emetics. They are often intemperate. In Leeds we did not find one brass-founder more than 40 years of age; though we have since been informed that there are two brass-founders in the neighbourhood, of the ages of 60 and 70, who have continued at the employ from boyhood.† The *Turners*, *Filers*, and *Dressers of Brass*, if confined to this metal, do not seem to be more unhealthy than the generality of our townsmen. We observe among the filers, the hair of the head changed to green. This I suppose to result from the oil of the hair's combining with the copper in the brass particles." 102.

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* "In one case the spleen after death was found to weigh 3lbs."

† "*Aretæus*, in his chapter Περι Ασθμαλος, characterised, as most of his writings are, by a vivid picture of the disease, refers to the workers in brass, iron, &c., and to the tenders of the bath-fires. He considers them, it appears, affected with a moderate but durable asthma, the prelude of death—αμβολη θανατϖ.

In his remarks upon weavers, Mr. Thackrah observes, that the employment is unhealthy,—that the weavers by hand have low wages, and are often out of employ,—and that many an industrious man, working 13 hours a day, earns no more than 10s. or 12s. a week. An account of the mortality at one of the largest woollen manufactories at Leeds has been kept for several years. It can only be considered as approaching the truth, but even so far it is interesting and valuable. From January, 1818, to December, 1827, inclusive—10 years, about 700 operatives were employed, and of these 92 died, or 1.31 per cent. per annum. We perceive that the greater number were weavers and burlers. The latter are always females, who are kept in an irksome posture, and often in rooms too small.

COPPER-PLATE PRINTERS.

"These have the good muscular exercise of their brethren of the letter-press. In blue printing, a composition of white lead, Prussian blue, and turpentine is employed instead of common ink; and the hands of the workmen are often daubed with the paint from morning to night, yet no injury appears to result; no case of cholic or palsy from the poison of the lead, have we found among these workmen. Whence their exemption? An intelligent master thinks the mixing of the mineral with boiled rather than cold linseed-oil may prevent its poisonous effects. But this is scarcely probable. Does the prussiate of potass exert any antidotal effect on the oxide of lead? We gave a compound similar to that of the printer's blue to a dog, with the same fatal result as if a like quantity of oxide of lead had been given in any other form. On the whole, I am inclined to attribute the exemption from palsy to the comparative infrequency of the process; the printing with blue ink being much more rare than the printing with black. Engravers and Copper-plate printers, though not remarkable either for temperance or excess, present few examples of old age." 44.

In considering the occupation of draymen, Mr. Thackrah observes that, though intemperate they are usually long lived. He attributes this to their early rising and being much in the open air. Draymen, however, bear injuries and operations very ill, at least such is the case at St. George's Hospital, and we believe at the other London hospitals. They would seem to be peculiarly prone to diffuse cellular inflammation and sloughing, after compound fractures or lacerated wounds. Such, at least, is the remark that we should be inclined to make, from what we have witnessed at St. George's.

Mr. Thackrah observes, that engravers are apt to suffer in their eyes. We have seen some remarkable instances of this. We have under our care a young man, who is an engraver of ornaments on the locks and steelwork of fowling pieces. It is delicate work, and the glittering of the steel must be trying to the eye. This young man has a peculiar affection of the cornea of both eyes. It is affected with a sort of honey-combed ulceration which does not pass deeply, and leaves no opacity behind it. Every now and then the ulceration will nearly disappear; when a relapse, always of an inflammatory character, supervenes. His brother, who followed the same employment, was obliged to abandon it on account of affection of the eyes. It is proper to state, that the whole family appear to suffer in one way or other from ophthalmic complaints.

Gilders.

It is curious to observe the baneful effects of mercury upon gilders of various descriptions. It might naturally be expected that they would prove exceedingly injurious.

1. *Gilt Button Makers.* These, "in the *casting* department are subjected not only to great heat, but to rather severe effects from the fumes of zinc. These are giddiness, headach, sickness, reduction of the appetite, and bilious disorders. The men have the appearance of ill health; 45 is about the average duration of life. In this, however, as well as other baneful occupations, it is difficult to determine the proportion of evil which the employ and intemperance respectively produce; for labour that distresses is generally well paid; high wages admit considerable intervals of rest and leisure; and leisure, by most uneducated workmen, is spent happily only at the alehouse. In *gilding*, the temperature of the rooms is 110° to 120°. But the principal evil is the mercurial vapour. Reduction of the appetite and of sleep, trembling of the limbs, soreness of the gums, and disorder of the bowels are the common effects. At Birmingham, the women employed in this department begin their work at 10, a. m. and leave it at 5, p. m. They seldom live to full age." 111.

Nothing can be more true than the remark, that pernicious as such occupations may be, they are rendered infinitely more so by intemperance. Most *uneducated* workmen, says Mr. Thackrah, fly to the alehouse. It is to be presumed that the education of the poorer classes, now begun, may do something to remedy this evil; but whilst man continues what he is, he will seek a relief from bodily labour and bodily suffering in the gratifications of sense. It is not for these highly-paid and debauched artisans that the philanthropist grieves, but rather for the millions that, by incessant and unwholesome toil, can barely obtain a miserable subsistence.

2. *Silverers of Mirrors.* The fumes of zinc appear to act chiefly on the stomach and digestive organs, producing headach, sickness, impaired appetite, and bilious disorders. Mercury is infinitely more deleterious. The silverers of looking-glasses are exposed to its influence both by inhalation and touch. They are chiefly Italians, and few bear the employment long; some work on alternate days—many, more constantly engaged, are absent from illness for weeks and months.

"The general effects of the art are difficult enunciation, pain and constriction at the base of the chest, emaciation, debility, tremors, and lastly salivation. The gums are often wasted and the teeth left loose in the sockets. As the fingers and hands are generally the parts first disordered, it appears that the primary impression is on the nervous system at large, and is made through the medium of the skin rather than that of the lungs. Intemperate men suffer most." 112.

Mr. Thackrah refers to some cases published by Mr. Mitchell, a very intelligent surgeon of Lamb's-Conduit-street, in the Medical and Physical Journal for Nov. 1831. We shall select one of these cases, as extremely graphic and illustrative of the subject.

"P. Nash, æt. 20, of nervous temperament, commenced silvering six months ago, the trembling came on three days after he began to work, and his mouth was sore in six days; and he has continued to suffer, more or less, up to the present time.

14th March, 1831. The speech greatly impeded; the limbs totter when he attempts to stand or walk, which he accomplishes very slowly and with great difficulty, an infirm step, and awkward gait; he is unable to convey any substance to the mouth, in consequence of the severity of the tremors; slight subsultus tendinum, confined to the upper extremities; the tongue quivers, gums slightly tender; pulse strong, rather quick; appetite diminished; sleep disturbed; body wasted; he complains as if feeling oppressed like a load across the lower part of the chest; or as if a substance lay at the bottom of the lungs, as he expresses himself, which he conceives to have been drawn in by inspiration; the breathing was quick, accompanied with strictured feeling and cough. He was nearly thrown from a bath by the violence of the trembling; a large quantity of the water was driven, by his excessive agitation, over the sides of the bath; and if two men had not held him steadily in the water, he must have been thrown out before he was capable of remaining quiet." 113.

Sometimes the men, from their inability to direct their hands with precision, are obliged to feed like quadrupeds. The metal is oxydized; and, as an oxyde, exerts its prejudicial qualities.

3. *Water-Gilders.* These "men who coat silver or other metal with an amalgam of gold and quicksilver, are exposed to the same poison as the silverers of mirrors.* They diminish its effects, however, when employed on small work, by interposing glass between the mouth and the materials; and when engaged on larger articles, by affixing to the mouth and nose a kind of proboscis, which, hanging down, opens at a distance from the source of the mercurial fumes. Notwithstanding these contrivances and every attention paid to ventilation, the art cannot be closely pursued without the induction of serious disorder. Depression of spirits, or 'nervousness,' is succeeded by trembling, sickness, depraved taste, fetid breath, and finally salivation. Palsy also is frequent; but this, as well as the other maladies, is in most cases removed by rest and fresh air. Repeated attacks, however, destroy vigour of constitution and shorten life. Men past middle age suffer so much more than others, that scarcely any are found at the employ. Water-gilders generally work but four days a week, and for about nine hours each day.

Personal cleanliness and change of dress considerably diminish the bane of this and the preceding employment. Ventilation also, and the mangement of currents of air through the workshops, should be regarded as much as possible.† When tremors appear, rest, fresh air, and aperients should be promptly employed; and for salivation, I have found opium the most efficacious and speedy remedy." 114.

It is curious to observe the differences produced by different divisions of the same craft. Though severe bodily exertion would certainly appear to establish a great tendency to diseases of the heart and arterial system, yet we almost invariably find that the men who employ it are infinitely more healthy than those whose occupations are more sedentary. The following passages will prove what we have asserted.

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* "The superintendent of a manufactory told us, that from the sweeping of the chimneys on one occasion, he collected twenty pounds of good quicksilver."

† "In the Dict. des Sciences Med. Tome XXVII. are a plate and description of a contrivance by *M. Dacier* for the removal of noxious fumes, and which obtained the prize of 3000 francs, bequeathed by *M. Ravrio.* This person, who made a fortune as a *marchand d bronze d'or*, was so impressed with the sense of injury done by the Gilder's employ, that he left the prize for the discovery of some means of prevention."

Workers in Gold and Silver.

Workers in Silver "have different degrees of muscular exertion according to their departments. In the process of *casting* and *moulding*, the men have moderate exertion and generally stand. The slight dust which arises from the charcoal or brick-powder, does not produce apparent effect. In the *chasing*, *hampering*, *mounting*, and *pumicing*, the workmen sit, and are in consequence considerably more affected with disorder of the digestive organs. In the hampering, where they are obliged to lean much forward, the men are decidedly paler than in the mounting, where they sit upright. In the *polishing* they have an alternation of sitting and active exertion, for while one man turns the wheel to which the brush is affixed, the other holds the article to be polished. The men appear more robust in this, than in most of the preceding departments. *Stamping*, effected by raising a great weight and then allowing it to fall, is a laborious process. Each man is supposed to lift 80lbs. 500 times a day. In most of the rooms charcoal is burnt, but its gas does not produce a sensible effect, except when the apartments are low and the roofs of the common, instead of the pottery form. The 'blue vapour' in this case affects respiration at the time, and establishes a morning expectoration of mucus. In no department are the men crowded. Workers in gold and silver earn good wages, live well, and are not generally intemperate. In the department of stamping, which occasions profuse sweating, we find the men to take each during the day about three quarts of porter, twice the quantity consumed by individuals in other departments. It does not, however, seem to be injurious. The stampers were the most healthy men in the great London house we examined. In no department did we find aged operatives; but this seems to arise rather from the preference given to young men, as more expert in the improvements of the art, than from any thing baneful in the employ. A master of 12 or 16 working-silversmiths has since informed us that he has two or three between fifty and sixty years of age, and that, on examining a club of 100 men, he found as great a proportion of aged, as town-life commonly exhibits. He makes some general remarks, which I beg to insert in his own words.—'Their habits are various, say two of every dozen are rather abstemious, taking about a pint of malt liquor per day, and spirituous liquors not once a month, and live regularly; eight of the same number are men who live well the first four or five days in the week, that is, eating meat two or three times a day, and drinking perhaps from two to four pints of beer. They then appear dull and heavy, but in the last two days they 'study Abernethy,' as we say; take perhaps no meat, and water instead of beer, which makes them as cheerful as possible, aided a little by the idea of being near the eating and drinking days. The remaining two, or one at any rate, is a regular drunkard, taking from four to eight pints of beer per day, and perhaps three or four glasses of spirits in the same time. Some of this class die at 30, but others are in the workhouse, and live to 50 or 60.'" 48.

Gold Beaters are employed for about half the day in hammering the metal, and during the remainder, in spreading the gold leaf on paper. Thus there is an alternation of labour and comparative repose. The men enjoy good wages, are healthy and robust.

Jewellers and Workers in Gold are a distinct class from the Silver-workers mentioned above.

"They are subjected, not only to the evils of confinement, but to the effects of gases evolved in the manufacture. These are, the gas from the coke employed, as in collecting the gold from the sweepings of the floor; the gas from the charcoal used in melting; and

the vapour which arises in the process of *dry* colouring, from the fusion of saltpetre, alum, and common salt. The last produces such distress in the head and nervous system as to make it particularly disliked by the men. *Wet* colouring, in which mineral acids are used, I believe, is comparatively innoxious.* The jewellers' work-rooms are generally crowded, and the atmosphere consequently fouled by respiration, animal effluvia, and the smoke of lamps, as well as by the specific exhalations of the manufacture. Its temperature is generally raised, and in summer the heat is excessive. The labour is light; but the confinement to a leaning posture, with the head much depressed, and the elbows generally fixed to the sides of the trunk, for ten, fourteen, or sixteen hours a day, is irksome and injurious. Intemperance is general, and dram drinking especially prevalent. The disorders of which jewellers principally complain, are pains and soreness of the chest, disorders of the stomach and liver, and plethoric affections of the head. They enter the employ about 13 or 14 years of age, and are obliged to abandon it generally at 45-50. In an establishment of 37 men, two were under 20 years of age, twelve were between 20 and 30, thirteen between 30 and 40, and nine between 40 and 50; one only had passed the age of 50. An old jeweller is worthless to the art, and seldom indeed to be found. A master observes, that 'the men drop off from work unperceived and disregarded. I am quite at a loss to know what becomes of them. When they leave off working, they go, and are seen no more. Some, perhaps, become applicants for charities; but so few have I known of the age of 60 or 70, that leaving work, they seem to leave the world as well, a solitary one appearing at intervals to claim some trifling pension, or seek admission to an alms' house.'

This is a melancholy, but, I fear, a correct representation of the end of artizans in other manufactures, as well as this, where health is either forgotten, or deliberately sacrificed to lucre, and where this lucre is devoted to intemperance—where the high wages moreover of a baneful employ, afford opportunities of absence from work for hours, or days—and where this absence or interval, instead of being devoted to the refreshment and renovation of the animal frame, harassed and injured by labour, is wickedly perverted to the induction of effects, more baneful than those of any art or occupation." 116.

It is more than probable that a life of active or severe bodily exertion, even when conjoined with temperance, is not so conducive to longevity as a life of ease. Bodily labour appears to induce, with remarkable constancy, a disposition to hypertrophy of the left ventricle of the heart, and alterations of the coats of the arteries. It is not surprising that it should do so, for the circulating system being put to great efforts, is naturally worn out the sooner. But although such a mode of existence might not conduce to absolute longevity, there can be little question that it would allow a fair share of life, and would ensure, until the age of 40 or 50, a robust frame and a

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* "*Merat* speaks of the *derochage* and the consequent inhalation of gas from the acids as injurious. 'Beaucoup trouvent la le germ de diverses maladies de poitrine, de la Phthisie meme, ou au moins d'un etat languissant presque continuel." '—le teint pale et plombe.' I doubt the production of consumption or other organic disease of the lungs by the inhalation of the gases. Most of these act chiefly on the nervous system, and affect the lungs, only by depressing this system and thus reducing the general health. I can readily suppose a state of great languor, and defective carbonization of the blood, induced by the constant respiration of an atmosphere largely impregnated with gas from a mineral acid; but in this country workmen are not *constantly* exposed to such annoyance."

strong constitution. We should then possess a sturdy population, and our mechanics would be the raw material of excellent troops and hardy sailors. But this is an ideal picture. Labour there is, but such is society, and such is man, that whilst its injurious effects are developed, its beneficial ones are smothered and destroyed. The artisan, whose ingenuity, or the baneful nature of whose craft procures him high wages, flies to the stimulus of gin —the squalid wretch who labours for 13 hours in the 24 to obtain a pittance of ten shillings per week, has to fight against famine and filth, perhaps in addition to gin. This is probably more numerous than the former class, but whether it be or be not, our manufacturing population is such as we see it in Mr. Thackrah's pages,—on the whole, a wretched and depraved one.

We have glanced at the workers in mercury, silver, and gold. A more dismal scroll of evils from the agency of lead unfolds itself.

"*The Manufacturers of White Lead* are subjected to its poison, both by the lungs and the skin. The dust and exhalation are most from the *white-beds* and the *packing;* little from *smelting*. There is only stench from the *grinding*, and neither dust nor smell from the *blue-beds*. Such at least was the statement of the managers of an establishment at Hull; for we were not permitted personally to inspect the process, though we examined the men. In several departments the heat is such as to produce sweating. Drinking, however, is less than in many other hot employments, and white-lead preparers are not as a body intemperate. In all departments the men and women are sallow and thin, and complain frequently of head-ach, drowsiness, sickness, vomiting, griping, obstinate constipation, and to these succeed colic or inflammation of the bowels, disorders of the urinary organs, and, finally, the most marked of the diseases from lead, palsy. We observed the muscles of the fore-arm more frequently and sooner to suffer than other parts. The eyes are also affected with chronic inflammation, or reduced nervous power. Persons commence the manufacture about the age of 20; many soon leave from broken health; those who endure the employ do not remain on the average longer than the age of 45, and during one-third of these 25 years, the men are laid up in bed, or decrepid from colic or palsy. The oldest man known in a large establishment at Hull, we found to have attained the age of 54. But he is now unable to work. It is 16 years since he entered the employ, and during this period he has been laid up 28 times from serious disease! Each attack has been worse than its predecessor. He has been on one occasion 19 weeks in bed, with scarcely the power of stirring a limb, and was a month without any evacuation from the bowels. This miserable man is now partially paralytic; he has scarcely any motion in either wrist, and his lower extremities are so weakened that he can scarcely trail himself along even with the aid of a crutch. His haggard countenance and emaciated frame give the appearance of the age of 80 rather than of 54.

No person can be a month in the worst department without a serious attack of disease. Drunkards suffer most. One of them was said to have been suddenly seized with violent insanity while packing lead, and to have died soon after. Persons do not work in the lead manufactory more than five days a week on the average; and as no man could be induced to remain in the destructive departments, there is a regular change of duties. Thus, though none are destroyed, all are exposed in turn to the most baneful process.

What means can be used to improve the state of these wretched operatives? Last year I examined with care the agency of white lead, which was said to have been rendered innoxious by a peculiar process. I regret to add, that I cannot support the statement of

the projector. Will any chemical process avail to prevent the poisonous effects of this mineral? Can any substitute be found for its use in our arts and manufactures? For paint, Mr. Parkes, the chemist, recommends carbonate or oxide of zinc, which, if not wholly harmless, is a less noxious substance, and states that, though not quite so white, it keeps its hue longer than the common carbonate of lead. One means, at least, of prevention is quite practicable—cleanliness. The success of this simple measure at one manufactory,* warrants our belief that more than half the diseases of lead preparers would be prevented by washing and brushing the hands and skin whenever they leave work, cleaning the mouth, changing the dress, and the regular use of the bath. A linen dress is also recommended as excluding from the skin much of the dust which would enter through woollen. The rooms in which the processes are carried on, ought of course to be spacious and well ventilated, and there should always be a strong draught through the furnace. A subsidiary chimney, anterior to the ordinary one, is mentioned by Dr. Christison as particularly efficient in carrying off the exhalations from the rakings. Men should never be allowed to take their meals in the workshops. Fatty aliments are recommended as a preservative from the poison of lead." 106.

We see the effects of high temperature in the instance of sugar refiners.

"They are exposed to more heat than almost any class of operatives. The temperature in which they work is 70°, 90°, and sometimes 120°, and that of the stoves is 150°, 180°, and often 200°. Germans bearing the work better than Englishmen, are almost exclusively employed. Though dressed only in flannel shirts and linen trowsers, they perspire profusely: on coming out of the stoves, however, they take care to rub the skin dry. A disagreeable acetous exhalation arises during the process, but does not appear to affect health. The steam also is sometimes so great as to prevent the men seeing each other. A barrel of ale placed in the sugar-house allows free potation; much indeed is taken, from three to four, or even five quarts each per day; but the men do not appear to suffer from this quantity; and drunkenness is rare. They work from three a.m. to three p.m. The labour is great. Sugar-refiners are healthy and remarkably muscular. They never suffer from the complaints commonly termed colds. They are said to be rather frequently affected with hernia, to be subjected to rheumatism, and to be worn out, or die consumptive, generally before they reach the age of 50." 135.

We believe that we have noticed the most interesting portion of the new matter introduced into this edition of Mr. Thackrah's work. It is unnecessary for us to dilate upon its merits, or to recommend professional men to make themselves acquainted with its contents. Setting aside other considerations, it must surely be worthy of a philosophic mind to investigate the

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* "In an extensive lead factory in the vicinity of the metropolis, in which the colic peculiar to such places was formerly very prevalent, that disease has become so rare, that medical assistance has not, for some years past, been required. Many have supposed that the fumes of the lead induced the disease; but the remedy was found by tracing the cause to a more direct source. Workmen are seldom very strict in regard to cleanliness. The probability of particles of the mineral being conveyed from the hands amongst the food was suggested, and an order enforced that before any of the workmen should leave the factory to go to meals, their hands should be thoroughly washed, and that nail brushes should be used to prevent any of the lead remaining where it was most likely to adhere. The success of this plan, under strict superintendence, has been complete.—*Alcock on the Education of the General Practitioner.*"

effects of man's pleasures, pains, pursuits upon himself—to study the corporeal consequences of moral and physical impressions—to view society as it is, and not as its tinselled exterior makes it seem—to see civilization in its practical working. A philosophic mind, we say, will be improved by an inquiry so inviting, so replete with interest. How the scene displayed may affect others we do not know, but we own that the sensations excited in our own bosoms have not been those of unmingled pleasure. When we see the starving diseased artisan at his loom or his furnace, we cannot wonder at that troubled aspect which great political questions wear. But this is foreign to the matter. We again recommend the Work to the public, and thank Mr. Thackrah for the valuable instruction we have derived from it.

XI.

A Dictionary of Practical Medicine, &c. &c. By *James Copland*, M. D. &c. Part I. pp. 336, and p. 16 of Appendix. Oct. 1832.

The great Dictionary of Medicine in France, consisting of more than 60 volumes was followed successively by other works of a similar kind, though on a smaller scale, and, as was alleged, on a more careful and select plan. Something analagous appears now to be taking place in England. The Cyclopædia of Medicine, a very meritorious work, is now accompanied, rather than followed, by Dr. Copland's Dictionary of Medicine on a smaller scale, or at least in a smaller compass, but from type and page, calculated to compress an immense quantity in a comparatively small space. We have reason to believe that Dr. Copland projected his work, and even issued a prospectus of it among his friends, before the Cyclopædia was undertaken; but the latter, from causes to us unknown, has got the start of the former. We know of no blame that can fairly be attached to either on this account. The editors of the Cyclopædia had a right to come into the field when it suited themselves, whether there was any other preparing for a similar undertaking or not—and if Dr. Copland has been anticipated in his plans, he cannot blame his more active or more fortunate cotemporaries. But, laying aside all party considerations or literary manœuvres, which are equally admissible in the cabinet as in the campaign, we believe there is ample field for both candidates in the present competition, and we are sure that the public wil be gainers, whoever may be the victors.

Of Dr. Copland's talents, learning, and industry, there can be no question; and, under such circumstances, it may be a matter of doubt, or at least of discussion, which plan is preferable—that of a single compiler and compilation, or that of a cyclopædia, where each article is the work of an indvidual, whose name is subscribed. The former plan is the more ancient in this country—as may be seen in the Dictionaries of James and Parr; the latter is the modern mode, as exemplified in the three or four dictionaries published, or publishing, in France. Each has its advantages and disadvantages, as we said, on a former occasion, when announcing the Cyclopædia of Practical

Medicine; and it would be invidious, as well as unpleasant, to dilate on the topic, now that the parties are on trial before the tribunal of the public.

From an examination of this part of Dr. Copland's work, we are led to form a most favourable estimate of its success. The labour is immense and will stamp the author as a man of very great research, unwearied industry, and sound judgment. Like his celebrated predecessor in this walk of medical literature, Dr. Parr, the author has interwoven much of his own observation and experience, as well as his own speculative views in the various articles. It is probable that this will be considered as rather a fault; but, if we may judge by the effect on Dr. Parr's Dictionary, it will be looked on as an advantage by a much larger class of readers. The immense quantity of matter which is here compressed into a small space, must render the work a very popular one, more especially for those practitioners who reside in the country or travel abroad, on account of the facility of reference and the portability of the Dictionary, which truly deserves the name of Cyclopædia Medica. The work offers a most remarkable example of the "march of intellect"—of the facilities, as well as cheapness, of literary travelling in our days, as compared with those of our ancestors. There is more concentrated information contained in this first part of Dr. Copland's work, which costs only nine shillings, than in any five octavo volumes of the year 1800, entailing an expense of two or three guineas!!

Dr. Copland has chalked out for himself a regular systematic plan of handling his subject, which confers on the whole work a uniformity, far superior to any thing of the kind in any similar undertaking—and which is one of the advantages of not being merely editor, but author of each article.

To attempt an analysis of such an elementary work would be preposterous; and, therefore, we shall take a single article (a short one of course), and give it entire, as a sample, reserving for ourselves the opportunities that may present themselves, of remarking on particular points of doctrine or practice that may strike us, both in this work and its cotemporary, the Cyclopædia of Practical Medicine. In justice to the distinguished Editor of the Dictionary, we freely confess that the article selected is preferred on account of its conciseness, and not as affording, by any means, a favourable sample of the work. The disease which has been vaguely termed "ANGINA PECTORIS," is still unsettled in its pathology, etiology, or treatment, and, therefore, presents difficulties to a compiler of no ordinary kind; still, with all these disadvantages, we are confident that a perusal of the articles will make a favourable impression on the reader, and will enable him to form an estimate of the whole. Ex pede Herculem.

ANGINA PECTORIS. SYN. *Cardiogmus Cordis Sinistri*, Sauvages. *Angina Pectoris*, Heberden. *Asthma Arthriticum*, Schmidt. *Diaphragmatic Gout*, Burton. *Asthma Doloríficum*, Darwin. *Syncope Anginosa*, Parry. *Angor Pectoris*, J. Frank. *Asthma Convulsivum*, Elsner. *Pnigophobia*, Swediaur. *Sternodynia Syncopalis*, Sluis. *Asthenia Pectoralis*, Young. *Stenocardia*, Brera. *Asthma Spastico-Arthriticum*, Stoeller. *Sternalgia*, Baumes and Good. *l'Angine de Poitrine*, Fr. *Brustbräune, Herzklemme, Brustklemme*. Ger. *Angina di Petto*, Ital. *Suffocative Breastpang*, Eng.

CLASSIF. 2. *Class*, Diseases of the Respiratory Function; 2, *Order*, Affecting the Lungs, their Membranes, or motive Power (*Good*). II. CLASS, I. ORDER (*Author* see *Preface*).

1. DEFIN. *Acute constrictory pain at the lower part of the sternum, inclining to the left side, and extending to the arm, accompanied with great anxiety, difficulty of breathing, tendency to syncope, and feeling of approaching dissolution.*

2. This affection was not recognised as a distinct disease by medical authors, until Dr. HEBERDEN described it as such in the Medical Transactions of the London College of Physicians (vols ii. and iii.); but the works of MORGAGNI and HOFFMAN show that they were not unacquinted with it in practice. It was also noticed by POTER (*Opera*, No. 22, p. 302.), under the head 'Respirandi difficultas, quæ per intervalla deambulantibus incidit;' and he remarks respecting it, that the attacks were sometimes so severe that persons had been suddenly carried off by them. Obscure notices of affections, which probably were of this nature in some instances, may also be detected in authors from HIPPOCRATES downwards. From amongst these, the reader may refer to ARETÆUS (*Opera*, p. 7. Oxon. 1723.), CŒLIUS AURELIANUS (lib. ii. c. i. p. 348.), BARTELETTI (*Methodus in Dyspnœam*, Bon 1632.), and others, adduced by ZECHINELLI (*Sulla Angina di Petto*, Pad. 1813.), who supposes that the case of SENECA (*Opera*, t. ii. p. 136.), which he has himself described by the term *suspirium*, was actually this malady. Dr. CULLEN has passed Angina Pectoris over in his work; but it has been well described by Drs. FOTHERGILL, WALL, DUNCAN, BUTTER, PERCIVAL, DARWIN, MACBRIDE, HAMILTON, MACQUEEN, JOHNSTONE, HAYGARTH, PARRY, NICHOLL, and GOOD, in this country; and by JURINE, BRERA, LENTIN, DESPORTEL, KREYSIG, RITTER, ZECHINELLI, and STOELLER, on the Continent; and by Dr. CHAPMAN, in America.

3. PATHOLOGY.—I. SYMPTOMS. An attack of this disease is often preceded by considerable derangement of the digestive organs, especially by flatulence, acid or acrid eructations, or other symptoms of indigestion, with torpid bowels, pains in the limbs, and occasional spasms about the chest: but it frequently also attacks a patient, particularly when walking or ascending an eminence, without any, or with but slight, premonition.

4. *A.* In its *acute form*, the patient is seized with a sense of painful constriction of the chest, particularly at the cardiac region, about the lower part of the sternum, inclining to the left, and extending to the left, occasionally also to the right, arm—at first, no further than the insertion of the deltoid muscle; but the pain often successively reaches to the elbows, wrists, and sometimes even to the fingers. This is the mildest form of the disease, and soon subsides with the disappearance of its exciting cause.

5. In the more violent form of the attack, the pain and sense of constriction in the chest, and pain in the left arm, which also frequently extends to the right, amount to excruciating agony; being likened, by LAENNEC, to the piercing of nails or the laceration by the claws of animals. This feeling is accompanied by a sense of syncope or suffocation, sometimes with suffocative orthopnœa, convulsive dyspnœa, and palpitations; always with extreme anxiety, and a sense of approaching dissolution. The suffocative sensation is characterised by concomitant tightness and fullness of the chest, and flatulent distention of the stomach, and irritative feeling in this organ, which is relieved by eructations. During this period the pulse is variously affected, sometimes little changed, at other times extremely weak, irregular, or intermittent; and occasionally it is full, active and bounding. If the attack has been induced by walking or exercise, the patient suddenly stands still, from a feeling that perseverance in either would produce a total suspension of living power. In the slighter attacks, or early in the disease, rest merely will often immediately remove it; but this is seldom the case in the protracted and severe forms in which it frequently occurs.

6. The paroxysm continues from a few minutes to one or more hours, according to the severity and the duration of the disease. When the malady has assumed a chronic form, and its attacks occur during the night, or when the patient is at rest, the paroxysm is less violent, but generally of much longer duration; whereas, when it is induced by exertion, &c. it is of extreme violence, but of short continuance: the average duration of the fit may be about half an hour. Upon its cessation the patient merely retains a slight feeling of the various symptoms, with numbness of the arms, particularly the left. When the disease is of short standing, the paroxysms occur at long intervals, which are gradually shortened, until there is but little exemption from them, and the affection assumes a less acute character.

7. *B.* The *chronic* form of the disease is characterised by the circumstance of its being frequently a consequence of the acute; by the occurrence of the fit from the slightest

causes, and after short or imperfect intervals of exemption; by its recurrence when the patient is at rest, or sleep; and by its much longer duration, by less extreme violence. Even if this form be induced by exercise, rest has little influence in shortening its duration, as in the preceding; and the paroxysm has been protracted not only for some hours, but even for several days. Palpitation of the heart, irregular and intermitting pulse, are more frequently concomitants of this state of the disease, than of the other. In the case of a very eminent and learned member of the profession, whom I long attended in this form of the disease, the attack has often continued as now described, with little remission for several weeks. Sometimes the irregularity of the pulse is observed only during the paroxysm; but in some cases it is continued, as Dr. FOTHERGILL has correctly remarked, during the intervals, particularly when they are marked by imperfect relief.

8. This form of the disease may also occur primarily. It has twice presented itself to me in this manner. During the severity of the attack, leipothymia, a feeling of dissolution from the intense agony, and these followed by palpitations, and an irregular state of the pulse generally occur. In some cases the agonizing pain extends not only to the arm or arms, but ascends also up the throat and lower jaw, accompanied with a severe sensation of spastic constriction. In the majority of cases the above sensations are only present, when excited by motion, by assuming suddenly the erect posture, or even by attempting to read; a neuralgic kind of pain generally, however, being felt under the sternum, and extending to the arms: but in some cases, and in two which occurred to me, the exacerbations were often referrible to no very evident cause, they sometimes occurring during the night, although the above causes generally induced them.

9. Notwithstanding the remarkable distress characterising the paroxysm, this disease, particularly in its acute state, sometimes does not early affect the constitution, or entail any permanent lesion; the patient often enjoying tolerable health in the intermissions, and performing all his functions naturally, and without embarrassment, until shortly before an attack. After its protracted continuance, however, the vital energies of the frame, particularly as they are manifested in the digestive and circulating organs, give way. Marked disorder of the chylopoietic viscera, attended with various dyspeptic symptoms, occasionally with great irritability of the stomach and bowels, impeded respiration, anxious and pale countenance; flabby state of the integuments and muscles; marked derangement of the circulation, œdema, dropsy, &c.; at last supervene. But it more generally happens that the patient is carried suddenly off by a paroxysm before this state of the system is occasioned; or he sinks under the complicated derangement proceeding from an attack, and from some one of the organic changes which the continuance and repeated fits of the disease had induced.

10. II. CAUSES.—1. *Predisposing.* This disease usually attacks the middle-aged, and those beyond it; and men much more frequently than women. Of nearly one hundred cases, about seventy were upwards of fifty years of age; and seventy-nine out of the number were males; nearly one half terminated fatally, and almost the whole of them suddenly. It has been said also to occur more commonly in robust and corpulent persons with short necks. But JURINE and CHAPMAN dispute this. My own experience agrees with theirs in respect of its being equally common in persons of a spare as well as a full habit. It is most prevalent in those of gouty and rheumatic diathesis, and who lead an indolent, or studious and sedentary life, or who have been subjected to much and continued anxiety and distress of mind, or indulged in much food, and spirituous or other liquors. JURINE and PARR state that they have scarcely met with it under fifty years of age. The most violent and distinctly-marked case of it which ever came before me, occurred in a gentleman at the age of thirty-four. During 1821, I attended an unmarried lady, aged twenty-six, who laboured under it in a slighter form; and recently, in 1830, another single female, at the age of twenty-five, came under my care, with the disease in its most violent grade. In both these females, it seemed perfectly unconnected with uterine disturbance, menstruation being regular, and no tendency to hysteria having at any time evinced itself, or could be detected, my attention having been directed to this point. They both ultimately recovered, after a long treatment, and the employment of very decided measures. Nearly all the cases which have come under my observation were more or less referrible to mental causes, particularly to disappointment, anxiety, and other depressing

passions. Dr. Hamilton conceives that there is an hereditary disposition to the affection. If we consider it to be of gouty origin, as contended for by Butter, Macqueen, Ritter, Stoeller, Thilenius, Elsner, and Chapman, an hereditary disposition may be also conceded. But, although very satisfactory proofs have been adduced by these authors, and particularly by Dr. Chapman, in an able paper he has recently published on this disease (*American Journ. of Med. Sciences*, No. xiii. p. 67.), yet it does not seem always to depend upon gout. Of the four cases which occurred to Dr. Black, of Newry, one only was subject to gout. *Med. Chir. Trans.* vol. vii.)

11. 2d. The *disease is usually excited* by walking, especially walking against the wind, or up hill; by ascending a flight of stairs, or any acclivity, particularly when the stomach is full or distended by flatus. It is also readily induced by either the exciting or the depressing passions, and by whatever perturbates the mind, or occasions emotion. It may also be induced by the most trifling causes, in some susceptible and irritable habits, as by gentle walking, coughing, speaking, or reading aloud; by suddenly assuming the erect posture; by straining at stool; or even by a meal, however moderate, &c. It may also occur in a state of absolute repose, particularly when the disease has become chronic; and the patient may be roused from sleep by an attack.

12. I have seen it occasioned by rapid changes of temperature, particularly by a rapid change to great cold; but different persons seem differently affected by extreme states of atmospheric temperature. In some slight cases the fit has been shortened, by the patient struggling to overcome it, by frequently attempting to make a full inspiration; but this has also failed. The patient is incapable of making this attempt in the more severe paroxysms.

13. III. Diagnosis.—Angina pectoris is more liable to be confounded with asthma, than with any other disease. But a close attention to the phenomena attending upon both affections, will readily disclose a very great difference between them. The paroxysms of asthma always come on during the night, or at the close of the day: they are characterised by a heavy dyspnœa, wheezing, and cough; are relieved by expectoration and exposure to fresh air, and subside gradually towards morning. They are not excited in the same way, nor by similar causes, nor marked by the acute and peculiar pain in the sternum and left arm, which is distinctive of angina pectoris. The stethoscope and percussion furnish us with no signs peculiar to the disease under consideration, unless it be complicated as is sometimes the case, with organic lesion of the heart and lungs, or with effusion of fluid within the cavity of the pleura or pericardium, when they materially assist us in ascertaining the nature of the complication, and they also serve, by enabling us to ascertain other affections of the heart, to distinguish between it and them.

14. IV. Prognosis.—In recent cases, of no very violent character, recovery will frequently take place under judicious management. Bnt when the disease has become inveterate from neglect, or from being associated with, or from having given rise to, organic lesion, and when it has appeared in a decayed constitution, or has been preceded by other diseases of the heart or lungs, an unfavourable result should be apprehended sooner or later to take place: but the period of its occurrence is uncertain; and the event is generally sudden—sometimes like an electric shock; the movements of the heart being instantly arrested. This issue is often occasioned by a full meal, or by exercise or mental emotions; but it also occurs in old or chronic cases, when the patient is at rest, and apparently uninfluenced by any circumstance or occurrence. When it is followed by symptoms of effusion of fluid within the thorax, or œdema of the extremities, a fatal termination is seldom far distant.

15. V. Proximate Cause, &c. Notwithstanding the number of examinations which have been made after death from this disease, but little light has been thrown upon it. This is not so much owing to the absence of morbid appearances, as to the extreme diversity of those which have been observed. Like epilepsy, or dyspnœa, it has presented almost every lesion, to which the organs which it affects are liable. Many of these may be viewed as accidental concomitants, or as concurrent causes; and not infrequently as results of the repeated functional disturbance occurring during repeated attacks. In several instances, not the slightest morbid appearance could be detected: but more frequently the heart and the large vessels in its vicinity have presented marks of disease, generally varied in its nature, and opposite as to its characters. The most common of these are ossification of the coronary arteries; ossification of the valves of the heart, or of the arterial trunks; enlargement of some of the cavities of the heart, either with

diminished or increased thickness of their parietes; but most frequently with softening, paleness, and tenuity of the muscular structure of the organ; varicose dilation of the coronary veins (BRENA); depositions of adipose matter, to the extent of impeding its functions; effusions of serum, blood, &c. into the pericardium or cavity of the plura, &c. (FOTHERGILL, BLACK, &c.) It has justly been remarked, by my friend Dr. Uwins, 'that there is scarcely any malformation of the heart or its blood-vessels, that has not been occasionally found after death, from what would be considered angina pectoris: while, on the other hand, individuals have fallen victims to the affection, fully marked, and the most accurate post-mortem examination has not been able to detect the slightest indications of structural derangement.' *Compend. of Theoret. and Pract. Med.*) In some cases, the only morbid appearances observed have been in other, and distant organs, from that which seems to be, if not the chief seat of the disease, at least the organ chiefly affected in its functions by it—the heart and large vessels having been altogether exempt from lesion. These appearances were adhesions of the serous surface of the lungs to adjoining parts; serous effusions into the pleura; thickening of the respiratory mucous surface; dilation of the bronchi; œdema of the intervesicular cellular tissue of the lungs; abscess and tumours in the mediastinum; ossification of the cartilages of the ribs (WICHMANN, JAHN); tubercles, enlargement, scirrhosity, &c. of the liver (PERCIVAL, LATHAM, BRERA, and WALKER), scirrhus of the pylorus, &c.

16. These lesions serve less to throw light on the precise nature of the disease than an attentive examination of the morbid phenomena during the life of the patient, and a calm appreciation of their relations, particularly with respect to the agents tending to diminish, remove, or to exasperate them. This affection has been considered by many authors as spasmodic, 'although the part immediately concerned seems not to have been designated or understood.' Dr. CHAPMAN remarks, that this hypothesis is rendered probable, by the general complexion of the disease—its causes, symptoms, and cure—and by its analogy to other disorders confessedly of this character.

17. Dr. FOTHERGILL supposed it to be occasioned by obesity, and particularly by a collection of fat about the heart; he also considered that it was sometimes symptomatic of water in the pericardium or cavity of the thorax. PARRY, JENNER, BURNS, KREYSIG, BOSTOCK, and some others, have viewed this affection as a species of syncope occasioned by the accumulation of blood in the heart, from an ossification of the coronary arteries. Drs. HOSACK and FORBES conceive that it most frequently arises from a plethoric state of the blood-vessels, more especially from a disproportionate accumulation of blood in the heart and large vessels. To the first and second of these opinions it may be objected, that there is no obvious connexion between the effect and the cause; for, as the cause is permanent, the effect should be continued, or at least present but little abatement, whereas the intermissions between the paroxysms are often characterized by a return of the healthy functions. It may be further stated, in opposition to this hypothesis, that many fatal cases have occurred in which this particular lesion was not found on dissection. LAENNEC states that he has examined several subjects who had laboured under this disease, and in none of them did he find the coronary arteries ossified. Besides, cases are recorded by MORGAGNI, SENAC, WATSON, CORVISART, ANDRAL, and others, in which ossification of these vessels was not productive, during life, of the sufferings characterising this disease. Indeed the coronary arteries are often found ossified in old persons, who had not complained during life of any affection of the heart, and who certainly never were attacked by this malady. As to the last of the above opinions, viz. that adopted by Dr. HOSACK, Dr. CHAPMAN has very justly observed, 'that even allowing the fulness and irregularity of the circulation contended for, which I am by no means disposed to do, as uniform concomitants, these I should take to be rather the effects of previous irritation or excitement, than the cause of the disease. Do we not also know, that such a condition of the vessels can exist without inducing angina pectoris? Were fulness and irregularity in the circulation only required for the production of the disease, instead of a rare, would we not have it as a daily occurrence? The fact, moreover, is, that angina pectoris, though oftener, perhaps, attacking the plethoric, is to be met with, as I have before said, in the feeble and attenuated.' I may add to this, that the severest case of the disease which has ever occurred to me was that of a gentleman who had suffered severely from repeated and profuse hæmoptysis, and other symptoms of disease of the lungs. All these disappeared, but were followed, after some time, by angina pectoris. He was feeble and attenuated; but it was

considered advisable to try the effect of blood-letting to a moderate extent: this gave no relief; it was repeated, but the symptoms were evidently aggravated by the measure.

18. Dr. Jurine considers the disease as a nervous affection; and he supports this opinion by referring to the sudden and unexpected manner of its attack—to its sudden termination in death, or restoration to health—the nature of the exciting causes of the paroxysm—the equality and regularity of the pulse, in the majority of cases, during the paroxysm—to the state of the respiration—to the painful sensation extending to the upper extremities—and lastly, to the circumstance of antispasmodics being beneficial in its treatment. The proximate cause, he adds, consists of an affection of the pulmonary nerves, disturbing the functions of the lungs, impairing the decarbonisation of the blood, and producing the pain in the sternum. This affection of the pulmonary nerves is communicated to the cardiac plexus, and deranges, secondarily, the heart and large vessels. The imperfect decarbonisation of the blood diminishes its stimulating influence on the heart and lungs, giving rise to repeated attacks, until it occasions the death of those organs, and then of the brain.

19. MM. Desportes and Laennec have adopted a nearly similar view of the disease, with this difference, that they consider its particular seat may vary according to circumstances. Thus, M. Laennec states, that when there exists, simultaneously, pain in the heart and lungs, we may presume that the affection is seated chiefly in the pneumogastric nerves; but where there is simply stricture of the heart, without pulmonary pain or difficulty of breathing, its site is in the nerves which the heart receives from the great sympathetic. But he supposes that other nerves may also be implicated at the same time, either by direct anastomosis or by sympathy; and that the branches of the bronchial plexus, particularly the cubital, are nearly always so affected. 'The anterior thoracic originating in the superficial cervical plexus are, moreover, frequently implicated; and this is sometimes further the case with the branches derived from the lumbar and sacral plexuses, when the thigh and leg participate in the attack, which occasionally happens.'

20. Brera, Zechinelli, Averardi, and some others, consider the disease to be occasioned by pressure of enlarged abdominal viscera on the heart, particularly of enlarged liver. Joseph Frank conceives it to proceed from congestion of the cavities of the heart, occasioned by defective nourishment of its muscular structure; this defective nutrition itself resulting from previous inflammation, or from metastasis of gout or rheumatism, or from disease of the coronary arteries. (*Prax. Med. Univ. Precep.* t. ii. p. 260.) Respecting these, it may only be added, that the symptoms of angina pectoris are very seldom associated with enlargement of the abdominal viscera; and that, although they are much more frequently connected with the lesions alluded to by Frank, this connexion is by no means uniform, and is obviously not one of cause and effect; these lesions being rather coincident and partial results of the morbid state of the nerves, the altered sensibility of which constitutes one of the chief characteristics of the disease. It may be farther stated, that Dr. Darwin views it as a particular species of asthma, producing cramp of a peculiar kind in the diaphragm, or the other muscles of respiration; and Dr. Butter, while he conceives it to be of gouty origin, also refers it to the respiratory organs, particularly to the diaphragm. On these opinions it is unnecessary to comment.

21. Dr. Chapman, to whose valuable paper I have already referred, states, 'That the disease is a species of neuralgia, I am entirely persuaded, commencing for the most part in the pneumo-gastric nerve, and spreading in different directions, as other nerves may become involved. The derangement of the heart and other structures, with which it is sometimes associated, I hold to be coincidences or effects, and not the cause; since, among many reasons which might be adduced in corroboration of it, the disease has undoubtedly prevailed independently of such organic lesions, and, conversely, these have existed without occasioning it. But what is the immediate cause of the irritation of the nerves, inducing this neuralgic condition, giving rise to the subsequent phenomena of the disease? This is a question, which hitherto has not been clearly answered. My conviction is, that it is derived from irregular gout, which misplaced, thus operates as an irritant of the nerves, and probably first of those of the stomach.'

22. It will be remarked from the foregoing, that Jurine, Desportes, Laennec, and Chapman agree so far as to impute the disease to a species of neuralgia of the pulmonary and cardiac nerves, affecting the functions of the heart and respiratory organs, and extending by nervous connexion to other parts; the organic lesions found in fatal cases being

either coincidences, or effects of the disease; and after an attentive examination of the phenomena attendant on several cases of the affection which have come before me, I see no reason for differing materially from this opinion. With regard to the origin of this affection of the nerves in misplaced gout, I cannot so implicitly agree with Dr. CHAPMAN. The connexion had been previously remarked by several physicians, as I have already stated, particularly by those whose names have been adduced, as well as by SCHMIDT and BURTON,—a circumstance favourable to the idea that it is founded in truth; and evidence of it may even be found in Dr. MUSGRAVE's very excellent, but now scarcely ever noticed work, on Anomalous Gout. WICHMANN, however, has disputed this connexion, and apparently with much reason. The notice which had been taken of this morbid relation, is very candidly referred to by Dr. CHAPMAN, who has adduced the particulars of six cases in which this affection was evidently connected with gout, and in which recovery took place, after means had been successfully employed to invite this disease to the extremities. In the majority of those cases the patients had never previously suffered a gouty attack, and yet the means employed were successful in causing it to appear in the lower extremities.

23. But whether this disease is merely a form of misplaced gout, or an affection *sui generis*, which, when occurring in persons of a gouty diathesis, the induction of the regular gouty paroxysm in the extremities generally removes, my experience does not enable me to decide. In two persons whom I was lately called to treat, and with whom I have been long acquainted, I have no reason to suspect a gouty tendency; but the connexion so satisfactorily established by Dr. CHAPMAN is evidently by no means infrequent, and is one which ought never to be overlooked during the treatment of this most distressing and dangerous disease. I believe that, in addition to the nervous character of the malady, the substance of the heart is often weak, thin, pale, and attenuated, or even softened, as if its substance were imperfectly and unhealthily nourished; and that its cavities, consequently become occasionally dilated and congested. This view is accordant with the treatment generally found most successful in removing it. In a great proportion of the cases before referred to (§ 10.), of which I had made notes, chiefly collected from authors, dissection had been made in about fifty of those which were fatal; and out of this number nearly forty presented some degree of disease of the heart or large vessels;—most frequently ossification of the valves, coronary arteries, and aorta; and softening and emaciation of the heart. But whether these lesions were rather the consequence than the cause of the disease may be disputed.

24. VI. The TREATMENT of this disease necessarily respects, 1st, the measures which may be adopted during the paroxysm; and, 2d, those which should be resorted to in the intervals, with the view of effecting a perfect cure.

25. 1st, *In respect of the means which may be employed during the fit, with the view of diminishing its duration and violence*, no very precise or dogmatic direction ought to be given. Much will depend upon the peculiar characters of the case. The patient should always be placed in a state of tranquillity; and, particularly, if the countenance be pale, and the carotids pulsating feebly, in the supine or reclining position. The propriety of *bleeding* in the fit has been discussed by several physicians, and depends entirely upon the particular features of the attack. Where the symptoms are urgent, the patient plethoric or vigorous, or the pulse full and possessed of tone, there can be no doubt as to the propriety of the measure. Dr. READ (*Dub. Med. Trans.*, vol. i. p. 105.) has recorded a case which well illustrates the good effects of this treatment during the paroxysm. In more questionable cases, where the pulse is weak, and the countenance is collapsed, bleeding from the arm ought not to be had recourse to. It is doubtful whether or not cupping even should be employed; but where this latter state is not extreme, and especially in cases of intermediate grades of severity, cupping between the shoulders, to a small or moderate extent, as the case may seem to require, will generally afford relief, particularly if used simultaneously with derivatives to the extremities.

26. But in nearly all cases, and still more particularly in those characterised by syncope, and an imperfect action of the heart, *frictions* with stimulating and irritating substances ought to be previously employed over the anterior parts of the thorax, and *stimulants* and *antispasmodics* exhibited internally. As to the extent and repetition of the blood-letting, whether general or local, the practitioner ought to be able to decide, being guided in this, as in other remedial means, by the apparent energies of the constitution, and the state of the vascular system; if these admit, and especially if signs of plethora, or of congestion of the cavities of the heart and large vessels of the chest exist, the depletion may

be carried to a considerable extent, or repeated, according to the relief obtained. The object here is to reduce the body to be moved to a nearer relation to the state of the moving power, at the same time that we endeavour to increase the energy of the latter.

27. I should add, that the propriety of bleeding, in the paroxysm particularly, has been much disputed; and especially by Continential authors. Where the pulse is feeble and soft, and the action of the heart weak, it is generally inadmissible; but, wherever we entertain doubts respecting it, the external and internal use of stimulants and antispasmodics, with frictions, should be cautiously premised, and only local depletions adopted; or depletion of every kind should be entirely omitted until after the paroxysm, when either general or local blood-letting, according to the particular circumstances of the case, may be practised with necessary precautions. I have employed moderate blood-letting in three cases, in which the propriety of the measure seemed questionable, the patients being of spare habits of body, and weakened states of system; but every precaution was taken to prevent immediate ill effects from the operation. In one of the three relief was afforded; in another, the advantage was very doubtful; and, in the third, the disease was evidently exasperated by it, although slight benefit seemed to result from it at the time. In one of those cases the serum of the blood had a milky appearance, from the presence of an oily matter, resulting from imperfect assimilation. From this evidence, therefore, I infer, that, where there are no signs of vascular plethora or cardiac congestion, or where the vital energies of the patient are depressed, and we presume the substance of the heart is attenuated and imperfectly nourished, we should be extremely circumspect in having recourse to vascular depletions of any description, and should particularly avoid bleeding from a vein; but, at the same time, we should be equally careful not to administer too active stimulants.

28. Next to the employment of depletion, under the above restrictions, in suitable cases, and with the concomitant means recommended, the bowels may be opened by a *purgative medicine*, combined with some warm *antispasmodic* and *carminative*, as ether, spiritus ammoniæ aromaticus, camphor, musk, castor, spiritus anisi, &c.; and these may be given, at intervals, subsequently. In the slighter attacks, and where the state of the vascular system and constitutional energies render it prudent to withhold depletion, friction, with stimulating liniments over the thorax and epigastrium, (as the following:—

No. 14. ℞. Linimenti Camphoræ Comp., Linim. Ammoniæ fort., aa ℥j.; Tinct. Capsici, 3iij. M.)

the internal administration of antispasmodics, and the exhibition of a purgative medicine, will be sufficient to give some immediate relief. The following will generally fulfill the intention:—

No. 15. R. Infus. Valerianæ, 3xj.; Spirit. Ammoniæ Fœtid. 3ss.; Tinct. Castorei, 3ss. M. Fiat Haustus bis terve in die capiendus.

No. 16. R. Infus. Sennæ Comp. ℥jss.; Tinct. Sennæ, 3ij.; Spirit. Ammon. Arom. 3ss.; Tinct. Cardamon Comp. ℥j. M. Fiat Haustus statim sumendus, et repet. si sit occasio.

Or the following:—

No. 17. R. Mist Camphoræ, ℥j.; Liq. Ammon. Acet. 3ij.; Spirit. Æther. Sulph. Comp. 3j.; Tinct. Camphoræ Comp. 3j.; Syrup Papaveris, 3j. M.

29. *Emetics* have been spoken favourably of by Dr. Good (*Study of Med.*, t. i. p. 667.) In a case of great severity, in which vomiting occasionally occurred when the paroxysm was excited by taking food into the stomach, I was induced by this symptom to try the effect of an emetic during an attack, but no benefit was derived from it.

30. The employment of *derivatives* to the extremities, particularly the lower, is generally beneficial; and ought not to be omitted in the paroxysm, whether we adopt the opinion as to the gouty origin of the disease or not. *Stimulating pediluvia*, and *sinapisms* or *blisters*, with all the other measures employed under similar circumstances in irregular or misplaced gout, had the effect, in the six cases of the disease published by Dr. Chapman, of inducing the regular gouty paroxysm, and of affording speedy relief. The *affusion of cold water* has been recommended by some authors, but it is a dangerous remedy in this disease. *Cold epithems* to the head have been mentioned by J. Frank (*Prax. Med. Univers.*, part ii. p. 273.), as having been used with advantage; they seem less objectionable. A similar remark may be applied to the tepid affusion on the head.

31. 2d, *The means which may be employed during the intervals or remissions between the paroxysms* are either *general* or *topical*. With respect to the *first* of these, a most studious attention to avoid the exciting causes of the disease must be inculcated. Next to this, all existing disorder of the digestive organs should be attended to and removed; and the diet and regimen of the patient strictly laid down and enforced. As the powers of the digestive organs are generally diminished, and the bowels either costive or irregular, *vegetable bitters*, with an occasional alterative aperient, either given alone, or in combination with an antispasmodic or anodyne, will often prove beneficial. With the view of thus strengthening the digestive organs and removing spasm, SCHAEFFER (*Volkskrankheiten*, Jun. 1807.) recommended vegetable bitters with opium, musk, camphor, assafœtida, and ELSNER prescribed the *muriate of ammonia* with Hoffman's anodyne. *Sulphate of zinc*, recommended by PERKINS (*Mem. of Med. Soc. of Lond.* v. iii.) in doses of a grain, with a quarter of a grain of opium, given twice a day, has a similar action; but it generally is necessary to give it more frequently, and to increase the doses. With the same view I have given the *prussic acid*, either simply, or combined with the oxide of zinc, forming a *prussiate of zinc*, and in one case particularly, with greater advantage than from any other means. I have reason to believe that the *prussiate of iron* will prove equally beneficial; but my experience of its effects is too imperfect as yet to allow me to speak decidedly as to its merits in this disease.

32. In a case which occurred to me a year since, I employed the *preparations of iron*, particularly the carbonate, being led to adopt them by the neuralgic characters of the case, and certainly with apparent advantage; but I should add, that local means were also in operation at the same time. Wherever we have reason to suppose that the heart is debilitated, imperfectly nourished, or attenuated, the employment of tonics, particularly bark, and the preparations of iron, either alone or with antispasmodics, is particularly indicated, with strict attention to diet and regimen. *Auscultation* will be found of service, by intimating to us the particular state of the heart, which must in a great measure regulate our practice.

33. In a case of the disease which came under my care in 1824, I prescribed the *nitrate of silver* triturated with a vegetable extract, as recommended by SEMENTINI. This substance was continued in increased doses, until it occasioned an eruption, resembling nettle-rash, on the skin,—an effect noticed by this physician. The relief afforded by it, after this eruption began to appear, was decided. The patient is, at the present time, in the enjoyment of tolerable health. At the period of my prescribing this substance, I conceived that its exhibition in this disease had originated with myself; but I subsequently found that it had been given in two cases of angina pectoris, with advantage, so long ago as thirty years, by Dr. CAPPE (*Duncan's Annals of Med.*, vol. iii.).

34. *Arsenic*, in the form of Fowler's solution, had been recommended in this disease by Dr. ALEXANDER (*Med. Comment.*, vol. xv. p. 373.), at a period antecedent to the introduction of the nitrate of silver into practice, as an internal medicine; and subsequently by Sir G. BLANE, who gave it with advantage, combined with digitalis and mercury (*Med. Chir. Trans.*, vol. iv. p. 136).

35. Besides these, preparations of *bark*, and other vegetable tonics, have been recommended, either alone, or in combination with antispasmodics and anodynes. The *hydrosulphuret of ammonia*, in gradually increased doses (from eight drops to thirty) twice or thrice daily. The different preparations of *valerian*, the *cuprum ammoniatum*, and *sulphate of quinine*, have likewise been employed, and occasionally with decided advantage: from the last of these, combined with an anodyne, particularly with opium and camphor, I have observed much benefit to be derived. The following formulæ may be employed.

No. 18. R. Infus. Rosar. Co. ℥xj.; Quininæ Sulph. gr. j.—ij.; Acidi Sulph. Arom. ℥ x.; Spirit Æther. Sulph. Comp. ℥j.; Tinct. Opii, ℥ xij. M. Fiat Haustus bis in die capiendus. Or,

No. 19. R. Extract. Anthemid. ℈ij.; Quininæ Sulph. gr. xij.; Massæ Pilul. Galban. Comp. ℥j.; Camphoræ Subactæ, gr. xv.; Syrup. Papaveris, q. s. Misce benè et divide in Pilulas, xxiv., quarum capiat unam ad binas vel tres bis terve quotidiè.

Having derived much advantage from the internal use of the *sub-borate of soda* in dyspeptic irritability of the alimentary canal, I was induced to employ it in a case of this disease which occurred to me a few years since, in doses of from twenty to thirty grains, given in the decoctum althææ. It produced some relief; but the case was of the greatest severity, and little benefit, at least of a permanent description, was derived from any means which were adopted, excepting from the prussic acid.

36. *Mercurials* have received the sanction of Brera. I have employed them in two cases: at first as an alterative; five grains of blue pill having been directed occasionally at bed-time, and subsequently so as to affect the mouth. In one of these the alterative dose had a beneficial effect upon the state of the stomach and bowels; but this was of short duration. When, however, pushed further, so as to affect the gums, great irritability of the system, fever, restlessness, and increased pain, anxiety, and sinking, were occasioned by it. In the other case, evidently connected with hepatic disorder, the blue-pill was also at first given as an alterative, on alternate nights. It affected the gums after a few doses, and afforded relief. It was now pushed with the intention of inducing salivation; and a somewhat violent effect was produced on the mouth, which was relieved upon exciting the salivary glands. Decided advantage was now procured; the bowels were kept open by means of a stomachic aperient, an issue inserted in one of the thighs, and change of air recommended. This patient perfectly recovered.

37. Where plethora exists, *blood-letting* in the intervals will be serviceable, with a light abstemious diet. When the paroxysms are apt to occur during the night, I have found an opiate given at bed-time, as recommended by Dr. Heberden, of great service. In one case of this description I gave the *acetate of morphine*, in the dose of an eighth of a grain, but it occasioned such distressing feelings of sinking, and general depression of the powers of life, that stimulants were required; yet the same patient had experienced relief from opium combined with camphor. On one occasion I tried the effects of *iodine* in the form of the tincture; but, although its use was adopted with great caution, seven drops only having been given three times a day, it occasioned an increase of all the symptoms, apparently owing to its irritating effects on the digestive mucous surface, and the idiosyncrasy of the patient. I may here notice the practice recommended by Schlesinger (*Hufeland's Journ.*, vol. i. p. 57.), consisting in the exhibition, every two hours, of the extract of the *lactuca virosa*, in doses of two grains, with half a grain of *digitalis*. What effect may we expect from the use of *colchicum?* Where the disease seems to originate in gout, the colchicum might be tried; but its use would require great circumspection. In my opinion it should only be given in combination with stimulants, or antispasmodics and tonics, the spiritus colchici ammoniati being the most promising preparation of it in such a case.

38. Although the patient labouring under this disease is generally incapable of any, excepting the most gentle, exercise; yet this should be taken under favourable circumstances; and change of air, particularly to healthy, dry, and elevated situations, should not be overlooked. It will generally be observed, that persons labouring under the worst form of the disease, incapable even of walking or sitting upright for any time, will bear well, and even be benefited by, rapid travelling in a carriage. This was first evinced to me by the case of a gentleman of great scientific and literary attainments, residing for a time at Paris, where I was called to him in the summer of 1829. He was anxious to return to England, from a dread of dying abroad. He undertook the journey with me, and was better during it than either previously or subsequently. He has since taken long journeys, with similar advantage, but no means which have hitherto been employed have afforded him more than temporary relief.

39. *Secondly*, Much benefit will be often received from *topical* means. Under this head *issues* and *setons* deserve particular notice. They have been employed on the insides of the thighs by Macbride and Darwin. Kreigelstein and Wolff also have observed advantage to be derived from them, when inserted either in this or in other situations. I have resorted to a peculiar form of issue in several cases of this disease, and, upon the whole, with much benefit. In one case, however, it failed of having the least good effect.

40. The *form of issue* to which I allude, and for the knowledge of which I am indebted to my learned friend Dr. Hutchinson, is the bark of mezereon root, deprived of its external cuticle, and, after having been soaked for some time in a little water, placed upon the surface of the part from which we wish to procure a discharge. This bark should be confined to its place by means of adhesive plaster, spread on paper of larger dimensions than the part covered by the mezereon bark. The bark may be renewed every night, until it procures a copious discharge. In some cases the effect is produced in a single night, or in twenty-four hours. When the discharge becomes copious the bark may be renewed less frequently. The adhesive plaster serves both to keep the mezereon in its situation, and to retain the discharge, so as to preserve it from soiling the clothes. When it is abundant the plaster may be renewed, and the secretion removed, as its occasional

acrimony often tends to heighten and to extend the irritation. In a severe and chronic case of this disease, which occurred to me lately (in 1830), I employed this form of issue, and kept a surface of about four inches square over the left small ribs discharging as long as the patient would endure this treatment. The disease disappeared, and up to this time it has not returned. The advantages of this issue are, that the patient can manage it from the beginning with great ease; and it may be readily increased to any extent, and the discharge augmented, according to the exigencies of the case.

41. *Artificial eruptions*, from the *tartar emetic* ointment or plaster, have now usurped the place of setons and issues; but, from a very extensive experience of the former, both previous and subsequent to the publication of an article on them in the London Medical Repository for April 1822, I consider them of inferior efficacy in some diseases, and particularly in this, to the pea-issue, or the issue now described. It is singular that the advantages to be derived from the production of artificial pustulation, in the treatment of various disorders, were so little known or appreciated until the appearance of Dr. JENNER'S pamphlet on the subject, since the practice had been recommended long previously in the Lectures of the second and third MONROS on Morbid Anatomy, as being frequently preferable to the use of blisters; and had been found serviceable by GOODWIN, AUTENRIETH, and KREIGELSTEIN, in this affection, in which it had been employed by them at the end of the last century.

42. *Blisters*, either frequently repeated, or kept discharging for a longer or shorter period, have received the sanction of PERCIVAL and many others. But little benefit will be derived from them, unless they be used in the way now named. THILENIUS recommends (*Med. und Chir. Bemerkungen*, i. p. 183.) repeated blisters applied between the shoulders. I agree with him in the selection of this place in preference to others for their application, as well as in the propriety of repeating them frequently. M. LAENNEC states that he has derived great advantage from *magnetism*, used in the following manner, both in alleviating the paroxysm and in preventing its accession:—He applies 'two strongly magnetised steel plates, of a line in thickness, of an oval shape, and bent so as to fit the part,—one to the left præcordial region, and the other exactly opposite, on the back, in such a manner that the magnetic current shall traverse the affected part.'—(*Diseases of the Chest*, p. 705.)

43. When the affection is *complicated* with other diseases, particularly with organic lesions of the heart, or enlargement of the liver, the treatment should be modified accordingly. In order to ascertain the nature of such complications, auscultation may be resorted to; for, although it gives us no information respecting the simple disease, it often enables us to detect the lesions with which it is sometimes associated, and to direct our means of cure more appropriately, and with happier results, than we could otherwise do. When the substance of the heart is weakened or attenuated (§ 23.) tonics, particularly sulphate of quinine, sulphate of zinc, and the various preparations of iron, given in decided doses, are particularly indicated. In other cases, as well as when the liver is affected, issues are generally serviceable. When the disease is connected with enlargement, &c. of the liver, mercury is almost indispensable. In all cases, whether simple or complicated, attention to diet and regimen, a pure air, amusement without excitement, and an equable and contented state of mind, are not only requisite to recovery, but are also necessary to render it permanent.

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When we inform our readers that the above article occupies only *seven pages and a half* of the Dictionary, he will be able to form some estimate of the value and the extent of the matter contained in this first part, as well as of the plan or arrangement on which Dr. Copland proceeds. It is now universally allowed that competition is the soul of enterprize and improvement, in literature and science, as well as in the mechanical arts. We are not sorry, therefore, to see two competitors (we will not designate them rivals) in the field of medical lexicography. They will benefit each other, and the public generally will be benefited. There is ample market for both publications. Many will possess themselves of both—and there are two large classes, each of which make a selection, some taking in the one, and others the other. We heartily wish the competitors success in proportion to their merits, and if they obtain that, they will have good cause to be satisfied.

In this first part, there are several very important articles, especially those on apoplexy, asthma, blood, and affections of the brain. The latter is a monograph of great merit, and immense concentration of scattered information. The diseases of the bronchi and air-passages are developed in a very masterly manner, and do great credit to the erudition and discernment of the editor. In fine, this first sample of the work will insure it success—and prove an earnest of Dr. Copland's literary reputation.

XII.

Memoir on the Pearly Nautilus, (N. Pompilius Linnæus.) By *Richard Owen*, Esq. M.R.C.S., Z.S. &c. &c. Quarto, pp. 68. Plates, 8. London, 1832.

(Published by direction of the Council of the Royal College of Surgeons in London.)

This is one of the most valuable and important monographs on any subject of natural history which for many years has been published; and we particularly wish the attention of our readers to be directed to it, not only from the admirable details of the memoir itself, but also as it affords a pleasing evidence how easily many of the medical profession may contribute largely and efficiently to the promotion of other sciences as well as of their own. When we state that the animal, whose anatomy Mr. Owen has here so beautifully developed, though bounding in many seas, has been long coveted, as perhaps the most rare of all prizes by naturalists; (for, judging from the records of books, it has been only twice seen and described, before the present specimen was obtained, namely, by Aristotle, and by the Dutch professor Ramphius, who lived nearly a century ago;) we hope that it will be an incentive to such surgeons as visit foreign climates, diligently to study the department of zoology. We are indebted for the specimen to Mr. George Bennett, who during a recent voyage among the Polynesian islands was indefatigable in collecting materials of every kind for the advancement of

knowledge. The circumstances connected with its capture are thus related in his journal.

"*Island of Erromanga, New Hebrides, August 24th*, 1829.

"In the evening a pearly nautilus (nautilus pompilius of Linnæus) was seen in Marekini Bay, floating on the surface of the water, and resembling, as the sailors expressed it, a dead tortoiseshell cat. It was captured, but not before the upper part of the shell had been broken by the boat-hook in the eagerness to take it, as the animal was sinking when caught. On its being brought on board, my attention was directed to possessing the inhabitant, which I succeeded in procuring. I immediately detached the animal from the fractured portions of the shell, to which it is attached by two oval muscular attachments, one on each side, and put it into spirits. The animal kept the tentacula closely contracted, and the only evidence of vitality was a slight contractile motion of the body. On laying carefully open that portion of the shell, which contains the chambers, it was found to contain water."

The position of the nautilus in the Cuvierian arrangement of natural history is among the cephalopodous mollusca, which most of our readers probably know, are the most perfectly organized of invertebrate animals. The appellation is derived from their having long, fleshy productions or tentacula issuing from the *head*, and supplying the place of *feet*, and we may add, also of hands. There are few individuals known, viz. eight or nine species of the cuttle-fish, including the sepiæ, loligo, and the octopies; two species of nautilus, and one species of argonauta. The shells of the last two genera are sufficiently common, and are universally admired, and receive the vulgar names of the pearly and of the paper sailor.

The cause of the extreme rarity of finding what is ordinarily called a living shell, that is, with the animal inclosed, of the former, is, that it is almost always sheltered in the depths of the ocean, and seldom comes to the surface. We cannot afford space for any minute details, but shall allude only to the more curious and interesting particulars of its structure. The nautilus has an exterior investment, or mantle as it is termed, somewhat similar to what is seen in the common cuttle-fish—it is much thicker and stronger anteriorly than posteriorly, where it is altogether inclosed in, and thus protected by, the shell. From the extreme posterior point of this sac is continued a small tubular membranous process, which passes through the syphonic apertures in the septa of the chambers of the shell, probably to the innermost one. In Mr. Owen's specimen, it had unfortunately been broken off short; an artery and vein are included within its thin external membrane, but how they are distributed remains unknown. From the head proceed forty digitations or hollow processes which contain each an annulated cirrus, or tentacle; these tentacles are longer than the canals in which they are lodged, and appear to possess considerable projectile, and retractile powers. There is not the slightest appearance of acetabula or suckers on the surface of the processes; the eyes are about the size of hazle-nuts; they are not contained in orbits, but are simply attached to the sheath or mantle behind the processes. The mouth is completely concealed among numerous tentacula; on separating these, the organs of mastication were found to consist, as in the cuttle-fish, of two strong hooked mandibles, like the bill of a parrot. The internal skeleton or frame-work, from which the principal masses of muscles take their origin, is soft and cartilaginous,

resembling much the cartilage of the skeleton of a skate. It is less perfect superiorly than we find in the sepia; the circle being incomplete behind, thus leaving the brain to be protected only by its membranous sheath.

To recur to the two mandibles, we find that their extremities are of a calcareous nature, and of a hardness apparently adequate to break through the densest crustaceous coverings, or even shells of moderate thickness; the margins are dentated, and thus probably designed to act upon hard substances, while the sharp edges of the beak of the cuttle-fish better adapt it for cutting and lacerating the soft bodies of fish. What adds much to the interest of this examination is the light which it throws on some organic remains, which were formerly considered to be the fossil beaks of birds; but which, no doubt appertain to the fossil shells of the large nautili met with, in the same strata.

The tongue of the nautilus is large, and has all the characters of a perfect organ of taste. The œsophagus is three-fourths of an inch long, and dilates into a capacious pouch, or crop, which opens by a short canal, into an oval gizzard, and this into the intestinal tube, which terminates between the bronchiæ. The whole of the alimentary canal was filled with the fragments of crustaceous animals. The liver is large and bulky; there is not any trace of structure analogous to the ink-bag of the cuttle-fish.

The respiratory and circulatory organs present some well-marked and characteristic peculiarities by which the nautilus is distinguished from the other cephalopods. It has four bronchiæ, whereas *they* have only two; and the bronchial arteries arise directly from the central venous sinus or dilatation of the vena cava, without the interposition of any ventricle or bronchial heart, as in the higher cephalopods; one, among many other beautiful illustrations, of the law of animal developement, that the perfection and extent of the aërating functions is, as it were, a test, or measure of the muscular activities of the creature. The nautilus has much less power of loco-motion than the cuttle-fish, in consequence of the inferior energy of the bronchial circulation, arising from the deficiency of a bronchial ventricle. The vena cava is very powerfully muscular; and between the fibres Mr. Owen discovered about fifteen round apertures in the membrane of the vein, and in the corresponding part of the peritoneum, so that the latter membrane is continuous with the lining membrane of the vein; and thus the blood may pass into the general abdominal cavity, and the fluid contents of that cavity be reciprocally received or absorbed into the vein. That great anatomist whom science has recently lost, Baron Cuvier, first detected a similar mechanism in the genus aplysia; and hence he was led to infer that the absorbent system ceases entirely in the mollusks, and "*a fortiori*," in the animals below them in the scale.

The nervous system of the pearly nautilus, though analogous, is in many respects inferior to that of other cephalopods; the eye is also much more simple; the pupil is very small; the lens is probably wanting, and the retina, as well as the rest of the interior of the cavity of the eye-ball, is covered by a black pigment, which is consequently here, as in the cuttle-fish, interposed between the impinging rays of light and the sentient membrane.

No distinct organ for hearing could be detected. The organs of generation in the present specimen were those of the female, and consisted of an ovary, an oviduct, and of an accessory glandular apparatus.

The chambered structure of the shell is indicative of the animal during its growth, having periodically divested its mansion, for another and a larger one; had the whole of the chambers been filled up with calcareous matter, the shell must have become so cumbersome, as to be incompatible with the locomotive faculties of its inhabitant. The exact use of the posterior membranous tube and its relation to the siphuncular apertures of the septa and chambers is still problematical. Dr. Hooke's theory was, that by means of it the animal has the power of generating air and expelling it into the deserted chambers, somewhat after the fashion of a fish's air-bladder, in order to render its specific gravity less, when it wishes to rise to the surface.

From a very careful examination of the anatomy of the nautilus Mr. Owen is led to consider it as "an osculant," or connecting form between the cephalopodous and the gasteropodous mollusca; and he has made it the type of the second order of the cephalopod, in which order he proposes to include such as have four bronchiæ. In the first order, viz. Dibronchiata, are arranged the sepia, octopus, loligo, ocythoë, or argonauta, &c.; while in the second, or Tetrabronchiata, he places the nautilus, spirula (?), and various fossil shells, as the bilemnites, ammonites, orbulites, &c. &c. But to such of our readers as have a taste for natural history, we must advise them not to be satisfied with the preceding notice, but consult and study the original, which is altogether a masterly specimen of genuine philosophic inquiry directed to anatomical and physiological pursuits. We hope that many will imitate the zeal of Mr. Bennet, and that we may again soon meet Mr. Owen in the field of his interesting labours.

XIII.

CLINICAL REPORTS OF THE SURGICAL PRACTICE OF THE GLASGOW ROYAL INFIRMARY. By. *John Macfarlane*, M. D. Senior Surgeon to the Royal Infirmary, &c. &c. &c.

THIS valuable work arrived at too late a period to admit of an extended notice in the last number of this Journal. We did, however, draw attention to it in our Periscope department, and in the present number we shall avail ourselves freely of the practical facts which it contains. We have already expressed the satisfaction which we feel, and which we are sure all who wish well to their profession must feel too, at the publication of works of this description. They are hospital reports in a most authentic form, and they offer a collection of facts which enable us to ascertain with considerable certainty the actual state of medicine or surgery. We have previously dwelt upon this subject, and the benefits accruing to the profession from the statement of a man's experience in the straight-forward manner displayed by Dr. Macfarlane, must be sufficiently obvious without any laboured exposition on our part. We pass, therefore, to the consideration of the cases related by our able and industrious author. We shall

select what appear to us to be most interesting, and present them in as condensed a form as possible.

Let us turn to the affections of the urinary and genital apparatus. And first of affections of the bladder.

I. Calculus in the Bladder.

"Without entering into a critical examination of the various plans which have been at different times adopted, for the removal of urinary concretions by surgical operation, I shall briefly state the mode of procedure adopted in the following cases:—A large curved staff, having a wide and deep groove on its convex side, was passed into the bladder, the patient was secured in the usual way, and an assistant appointed to fix the pelvis, by pressing against the iliac bones. A long narrow double-edged scalpel was then thrust into the perinæum, between the erector penis and accelerator urinæ, and its point carried steadily forward till it rested in the groove of the staff. The external incision was completed, by carrying the knife downwards and outwards between the tuberosity of the ischium and the anus, care being taken to depress the handle, and to elevate the point of the scalpel, so as to withdraw it from its deep position on passing the rectum. By this incision, the staff was always so fairly and completely exposed, that, on introducing the finger into the upper part of the wound, farther dissection was seldom required; the same scalpel was, therefore, run along the groove into the bladder, and the preliminary steps of the operation finished in a few seconds, by dividing the membranous part of the urethra and prostate gland in the usual direction.

The extraction of the stone is often the most difficult, and generally the most uncertain part of the operation; and on the care and caution with which this is performed, will the safety of the patient not unfrequently depend. When the calculus is of the usual size, when it is encysted, or grasped by spasmodic contraction of the bladder, the difficulties are greatly increased. The first three cases illustrate these points." 105.

It seems that Dr. Macfarlane's method of operating differs from that in general use in its first steps. He does not dissect for the groove of the staff, but makes a stab in the perinæum with a sort of catlin, completing the external incision, we presume, by cutting outwards, and passing the same *unbeaked* instrument into the bladder. Let this be recollected in perusing the cases.

Case 1. *Large Stone successfully extracted.* "J. T., æt. sixty, admitted 27th July, 1826. Had experienced pain and difficulty in voiding urine for more than five years. On examination, this was found to depend on the presence of a calculus. It was ascertained to be of a large size, in consequence of the dull, obtuse sound produced by striking it with a metallic instrument, the large space it occupied in the bladder, and its apparent weight and extent when examined per anum. Doubts were entertained as to the possibility of extracting it by the lateral operation. This was, however, ultimately decided on, as from the duration of the disease, and the consequently contracted and thickened state of the bladder, the high operation seemed impracticable.

On the 30th, the lateral operation was performed, and after a little difficulty, an oval-shaped calculus was extracted. It measured six and three-fourths inches in the transverse, and eight inches in the longitudinal circumference, and weighed six ounces and five drachms. The wound healed slowly, and he was dismissed on the 23d of October.

Besides the difficulty experienced in the extraction of so large a stone, it was found, that

from rheumatic stiffness of the knees and hip-joints, it was impossible to separate the thighs above a few inches from each other, or to bend them upon the abdomen, so as to obtain the usual space for the external incisions." 106.

CASE 2. *Stone thought to be encysted—Extraction—Cure.* J. R. æt. 23, admitted Sept. 28th, 1827. He had laboured under symptoms of stone for 20 years, the symptoms having seldom been severe, but occasionally aggravated by violent exertion or intemperance. The calculus was only discovered on passing the forceps deeply and raising the point; it was rough, irregular, and felt only and constantly on the right side of the fundus. The instrument could be moved around what seemed a projecting portion of stone, and from one irregular point to another. Varying the position—repeated sounding—injection of the bladder produced no change in the situation of the calculus, and Dr. M. conceived that it was encysted. The lateral operation was determined on, and it was expected that the projecting part of the stone might be laid hold of, and that so the whole might be extracted.

"I operated on the 6th of October. After the prostate was divided, the stone could not be discovered by the finger; but, on introducing a pair of long forceps, and pushing them up to the right side of the fundus, as far as the handles would permit, it was firmly grasped, and brought down with ease to the edge of the divided prostate, evidently bringing the fundus of the bladder along with it, when the instrument slipped. This occurrence happened frequently, and the forceps had always to be introduced in the same direction, and to the same depth as at first; showing that the stone had not changed its position, and adding to the belief of its being encysted. This opinion was still farther confirmed, by retaining the calculus as near the wound as possible, by the forceps held in the left hand, while the right forefinger was introduced by the side of the blades, and the calculus found to be firmly grasped by the bladder. The finger nail could be introduced between the edge of the cyst and the stone, round its whole circumference. To have employed much force in attempting to tear away the calculus, would have been dangerous,—the bladder might have been inverted, and separated from its neighbouring connexions. I therefore selected a pair of forceps with thin blades, introduced them to the necessary depth, carrying the handles well back towards the sacrum, laid hold of the stone, and, by a slow wriggling motion, moved them along its surface, with the view of insinuating their points between the border of the cyst and the stone. When this appeared to be accomplished, the handles were gradually separated in several directions, so as to produce dilatation, if possible, without lacerating the parts, and the stone was again grasped, and, with a little force, at length extracted. It was of the mulberry kind, and weighed one and a half ounce. The one side was smooth, whilst the opposite was nodulated; and, although there was no distinct neck, there was a deep groove traversing nearly two-thirds of its circumference, exactly where it was grasped by the bladder. But little blood was lost, and the patient bore the operation with great fortitude. An elastic tube was introduced through the wound into the bladder, and retained for thirty hours, after which the urine passed by the wound for three weeks, when it closed. He had no bad symptoms, and, about the middle of November, was again at his employment." 108.

We think it most probable that the stone in this instance was really encysted. However, the case is interesting because the difficulties attending its management are displayed. Our readers are no doubt aware that, when contraction of the bladder prevents the easy removal of the stone, it has

been recommended to leave the stone in the bladder until the spasmodic action of the latter shall have ceased. Amongst others, Mr. Lizars has published cases in which this method was successful. Dr. Macfarlane gives a case of this description.

Case 3. *Operation à deux temps*—Cure. A. P. æt. 17½, Nov. 1831. He had suffered severely from calculus for two years, and voided large quantities of the triple phosphate. The lateral operation was performed on the 25th, and the stone found fixed above the pubes on the right side.

"Having failed (says Dr. M.) to dislodge it by one or two cautious attempts, and not being able to seize it with the forceps, I ordered the patient to bed, trusting that, in a few hours, the contraction of the bladder would cease, and the stone drop into a depending part, and be afterwards extracted. In five hours after the operation, I was hurriedly sent for, and found that his urine was completely obstructed. On removing a coagulum from the wound, and attempting to pass the finger into the bladder, I found a calculus, about the size of a walnut, sticking in the wound of the prostate, which was easily extracted by the forceps. In ten days, he had a severe attack of cynanche tonsillaries, which ended in suppuration; but the febrile excitement gradually abated, and the wound filled up, although slowly." 109.

In the three succeeding cases there was enlarged prostate gland, a complication not in itself dangerous. We shall notice them very briefly.

Case 4. The patient was 63, and had laboured under stone-symptoms for three years. The prostate gland was as large as half an orange, smooth and soft. The calculi, six in number, and each as large as a small marble, were lodged behind the prostate, and to remove them, it was necessary first to push them back into the bladder. An elastic tube was retained in the bladder for 24 hours after the operation. The patient was cured in a month.

Case 5. W. W. æt. 64, Nov. 12, 1831. The sysmptoms had existed for six years, were urgent, attended with fever, and repeated attacks of hæmorrhage from the bladder. The prostate, especially the left lobe, was enlarged, indurated, irregular.

"After a few days' preparatory treatment, the lateral operation was performed on the 18th, and a rough, oblong calculus extracted. It measured two and a fourth inches in length, one and a half inches in breadth, and weighed one ounce and one drachm. The transverse artery of the perinæum bled freely, and there was rather profuse venous hæmorrhage on dividing the prostate, amounting in all to about eight ounces. This continued after he was put to bed, and produced a feeble pulse and a bleached countenance. An elastic tube was introduced, and the wound filled with sponge; but there still continued a good deal of oozing, and he had repeated threatenings of syncope for twelve hours. On the morning of the 19th, the sponge accidently slipped from the wound, and the bleeding returned; it was therefore re-introduced, and retained till the evening of that day, after which time there was no farther hemorrhage. He had considerable febrile excitement for several days, and nearly a fortnight elapsed before the wound began to granulate; it, however, completely closed, and he was dismissed in excellent health." 111.

Case 6. The patient was æt. 16—the symptoms had existed for six years, and were urgent—pain in the left kidney following the ureter—urine

loaded with mucus and mortar-like deposit—the prostate hard, painful, and twice its natural size. After proper remedial measures the operation was performed. The stone was rough, soft, weighing nearly one ounce and a half. An elastic tube was retained for thirty hours. The patient was dismissed cured at the end of January.

"I think favourably of the practice of introducing a tube into the bladder, and retaining it till the tract of the wound be consolidated. We shall thus obviate the risk of urinary extravasation, prevent premature cohesion of the sides of the wound, or closure of it by clots of blood, and facilitate the regular discharge of the urine. In the last case, but for the use of a tube, the escape of urine would have been prevented, the wound having been closed by the great protrusion of fat which took place in the course of the external incision. This practice will be found to prevent the wound, both in the bladder and externally, from adhesion by the first intention, an occurrence which I have met with in two cases. It is not, however, desirable, nor indeed is it safe, to favour this premature closure of the wound; by which means the passage of the urine along the penis becomes for some days both painful and difficult, giving rise to local irritation and constitutional excitement, as well as to the danger of extravasation. When the tube has not been introduced, and the urine for some hours after the operation appears to be discharged with difficulty, I do not hesitate to pass the finger through the wound into the bladder, and thus destroy any adhesions that may exist. I have seen three cases, in which, by a neglect of this simple procedure, extravasation of urine into the cellular texture of the pelvis was produced, giving rise to fatal peritonitis. One of these, which occurred to myself, I shall now detail." 112.

CASE 6. *Urinary Extravasation fatal.* G. G. æt. 18, admitted Dec. 11th, 1826. The symptoms had existed for two years, and were unusually severe, with extreme irritability of the bladder. After soothing treatment for some days the operation was performed on the 17th, and a very rough mulberry calculus, weighing 65 grains, extracted.

In the evening he had pain in the wound, uneasiness in the hypogastrium, and a desire to void urine. The adhesions were separated by the finger, and about four ounces of urine discharged. In the night he again had difficulty, but next morning the water flowed freely. He had then rapid, indistinct pulse—anxious countenance—swelling above the pubes without pain on pressure; he had had a slight rigor. The finger was placed into the bladder, but no coagulum found. *Castor oil.* In the evening, increased pain above pubes and in wound; in the left inguinal region a small spot where pressure was intolerable. Leeches—*Cal. and rhub.—bath.* At 1, a.m. was bled to 14 ozs, syncope, blood not being buffed or cupped. Lower half of abdomen swollen and painful on pressure—pulse 140—brown fur on tongue. *Leeches—cal. and ant.—purgative salts.* At, 7, p.m. swelling of the belly somewhat diminished—pulse scarcely to be counted. *Blister.* Next day, said he was better;—face hippocratic—pulse intermittent—belly tympanitic. Died at midnight, 83 hours after the operation.

"*Dissection.* Bowels were distended with air, and there existed a few patches of inflammation on the peritoneal covering of the ileon. There were about four ounces of sero-purulent fluid effused into the pelvis; but the traces of peritoneal inflammation were here very slight and obscure. The cellular texture, surrounding the bladder, especially on its

anterior surface, and that covering the left psoas muscle, was broken down, and loaded with pus and urine. The bladder was thickened, and its mucous coat highly inflamed, ecchymosed, and, in some places, ulcerated." 114.

The case is a good example of rapidly fatal inflammation of the cellular tissue, from extravasation of urine. Dr. Macfarlane makes two remarks that perfectly coincide with those previously made by Mr. Brodie in his published lectures—first, that depletion is frequently carried to an injurious extent after lithotomoty—and secondly, that peritonitis is not such a common sequence of the operation as many suppose it to be. There can be little or no doubt that diffuse inflammation of the cellular tissue has been and continues to be often mistaken for peritonitis. We must not imagine that this cellular inflammation is always produced by extravasation of urine. Patients occasionally die of it, children more especially, and yet no satisfactory evidence of effusion of urine can be met with after death. We know that after injuries and after operations, diffuse cellular inflammation of other parts occurs. The anatomical characters and the general symptoms are similar, and it is not absurd to suppose that the mere operation of lithotomy may give rise to diffuse cellular inflammation, independently of any extravasation of urine. The cellular texture of the pelvis, we must recollect, is apt to be much contused and injured by the introduction of the forceps and removal of the stone. We trust that, by drawing attention again and again to the opinions of Mr. Brodie on these subjects, we shall rouse many surgeons from the supine belief in the frequency of peritonitis after lithotomy, into which they would really appear to have fallen.

Case 7. *Lithotomy fatal in consequence of Osseous Tumor in the Mesentery.* R. C., æt. 67, admitted Jan. 23d, 1827. He had the symptoms of stone with more than ordinary severity. He had, on several occasions, voided small calcareous particles, about the size of a pin's head, and one hard smooth yellow stone, of the size and shape of a kidney-bean. A large sound was introduced, and from the rattling in the bladder there seemed to be several stones. The urine deposited a small quantity of flaky sediment. The prostate was much enlarged. The bowels were obstinately costive, the abdomen somewhat tympanitic. The symptoms had existed about nineteen months. After purgation and some other treatment, the operation was performed. Six entire and three broken calculi were extracted, the largest being oval and about the size of a walnut. The prostate felt almost like cartilage, and was so elastic as to close the wound in the bladder, like a valve. The arteries bled freely, especially the transversalis perinæi. It was too deep to be tied, but the bleeding was arrested by pressure. An elastic tube was introduced into the bladder, the body kept cool, the thighs separated. Nothing particular had occurred by that evening, but next morning he was affected at intervals with severe spasmodic pains in the abdomen. In the evening he had pain on pressure above the pubes, with accelerated pulse. *Leeches and enema.* 31st. Continued to complain of fixed pain above pubes, with violent expulsive efforts. *Tube withdrawn—castor-oil—leeches.* On Feb. 1st had six stools, but symptoms continued. A large elastic tube was passed into rectum to let out the air, without success. On 2d, had a rigor, followed by fever and nausea. *Calom. and opium—V. S.—fomentations.* On next day was better, but on the 5th the

flatulence and tenesmus were increased—he had had several scybalous stools, with excruciating pain during their evacuation. Complained of feeling a large hard body in upper part of rectum. From this time till 10th there was little change—his countenance was pale and exhausted. The treatment consisted in frequent and copious injections. On the 15th he had a violent attack of pain referred to the rectum, but nothing could be felt there. He was ordered hyosciamus and camphor, and other soothing measures. For three days he seemed better, but on the morning of the 22d he was found dead in his bed.

"*Dissection.* On opening the abdomen, a hard tumour was discovered lying over the last lumbar vertebra, between the laminæ of the mesentery, near the inferior part of the ileon, and which pressed on the sigmoid flexure of the colon, where it is about to become rectum. The surrounding mesentery exhibited no thickened or diseased appearance, and only adhered to the surface of the tumour by loose cellular attachments, easily destroyed by the finger. It was about the size of a small lemon, of a hard bony feel and appearance, and a very irregular shape. When sawn through, the exterior part was evidently bone, and varied in thickness, at different parts, from a quarter to half an inch, whilst the centre was filled by a yellowish-white substance, in appearance and consistence like adipocire, intersected in various directions by spiculæ of bone. Two small cavities in the centre were lined with innumerable transparent, needle-like crystals, which, however, disappeared after the tumour was dried, and before I had an opportunity of submitting them to chemical analysis. The mucous coat of the bladder was considerably thickened, of a dark vascular-plaited appearance, especially about the neck, and coated by a muco-purulent secretion. There was a tumour at the fundus about the size of a small marble, containing purulent matter, which issued into the cavity of the bladder, through two fistulous openings in the mucous coat at that part. The prostate gland was enlarged, and firmer in texture than natural, but without the fibrous appearance of scirrhus. The mucous coat of the rectum was highly inflamed, and there was considerable induration and thickening of parts between this gut and the base of the bladder.

This dissection afforded a satisfactory explanation of what had been previously only matter of speculation. The long-continued and painful tenesmus was obviously to be referred to the pressure of the osseous tumour, on the commencement of the rectum, producing an impediment to the regular discharge of the feces, tympanitic swelling of the abdomen, and great irritation. From the situation and connexions of this tumour, it would appear, that when the diaphragm and abdominal muscles were called into action in expelling the feces, it would be forced back on the termination of the colon, by the pressure of the surrounding parts, and not only impede the feculent evacuations, but also, from its extreme hardness and inequality, irritate and injure the bowel in no small degree.

In scrofulous habits, the mesenteric glands are sometimes filled with calcarious matter; but bony-depositions are stated by Dr. Baillie, (Morbid Anatomy, p. 134,) to be of rare occurrence. The few recorded cases of this disorganization, which I have had an opportunity of examining, appear to have originated in disease of the glands of the mesentery, and to have been complicated with organic disease of the bowels. Dr. Donald Monro narrates a case in the Medical Transactions, (vol. ii. p. 361,) in which all the mesenteric glands, varying in size from a pea to a walnut, were hardened and ossified. They were not, however, as in the case above detailed, made up of one large firm osseous tumour, but, 'like spongy carious bones, they were composed of a number of small pieces, joined together by membranes." 120.

Professor Thompson, analyzed the stone and the bone. The former was

chiefly uric acid. The latter was not adipocire, nor muscle, nor ligament, but "a little fat was separated," "and, when heated, it behaved like cartilage." We are afraid this does not add much to our stock of positive knowledge.

We relate all the fatal cases, because such are always instructive. Yet they are not so much so as they might be. Dr. Macfarlane, for instance, makes no mention of the state of the wound in the bladder, its size, direction, &c. Yet this is important; for surgeons have attached great importance to the prostatic incision. Mr. Brodie believes that if the left half of the prostate be wholly cut, or, at all events, if the prostatic capsule be cut, the risk of cellular inflammation is very much augmented. Other surgeons have said that the prostate should rather be extensively cut than stretched. How are such points to be decided, if they should ever admit of a decision? By a rigid observation of facts, and by that only. But if facts are superficially observed or recorded, they might almost as well be withheld. We address this remark to the profession, rather than to Dr. Macfarlane individually.

Case 8. *Lithotomy—Extensive Disease of the Prostate and Bladder—Death Eight Weeks after the Operation.* J. N. æt. 68, admitted Jan. 18th, 1832. Has very frequent desire to make water, always accompanied by prolapsus of the rectum, which he must replace before the catheter can be introduced, and by paroxysms of excruciating pain extending along the penis to the glans—urine containing a copious whitish-coloured sediment, and occasionally small coagula, decidedly alkaline, loaded with muco-purulent secretion, and depositing mortar-like masses. On introducing a sound, a calculus detected. Prostate about the size of half an orange, hard, irregular. A large catheter passing easily, the prostate was thought to cover the vesical orifice of the urethra, like a valve, which was the fact. The general health was impaired. He had suffered from the complaint for several years, and for the last three and a half required the introduction of the catheter nearly every second hour.

"After the use of acids, frequent doses of the Oleum Ricini, the hip-bath, anodyne enemata, &c., by which the bowels were unloaded, and the appearance of the urine greatly improved, I was reluctantly induced, by the earnest intreaties of the patient, who was suffering most acutely from the disease, and by the recommendation of a consultation, to try the chance of an operation. This was accordingly performed on the 5th of February, and a rough calculus, about the size of a walnut, extracted. He bore the operation, which lasted about a minute, with remarkable firmness, and not more than six ounces of blood were lost. Before he was removed from the table, a large gum elastic tube was introduced through the wound into the bladder. He continued to improve steadily from the third day after the operation. The elastic tube was withdrawn every fourth day, when its extremity was usually coated with calcareous matter, and its cavity filled with viscid mucus. It was near the end of February before I could pass a catheter along the penis into the bladder. This was also removed every third or fourth day, cleaned and re-introduced,—it being thought more likely to hasten the closure of the wound, by retaining the catheter in the bladder for several days at a time, than by introducing it every two or three hours, when the urine required to be drawn off. On the 25th of March, the wound was nearly closed; he had no pain; his bowels were kept regular by medicine; his appetite was good; he had improved decidedly in flesh and strength; and his general health was better than it

had been for many years. He was, in fact, considered to be out of all danger from the operation; and the symptoms of diseased bladder were much less troublesome than could have been expected. On the following day, (the 26th,) he complained of slight pain in the anus, which became prolapsed. On the 28th, as the urine was turbid, and contained a thick chalky sediment, the catheter was withdrawn, and introduced only when he felt inclined to empty his bladder. There was some febrile excitement; the pulse was about a hundred; the tongue dry and furred, and the bowels loose. He complained of pain and confusion of head; and his eyes were suffused. These symptoms increased; vomiting, hiccup, delirium, and subsultus tendinum supervened. His tongue and teeth were covered with sordes; and, altogether his appearance resembled that of a person labouring under typhus gravior. He died comatose, at the hour of visit, on the 3d of April,—eight weeks and two days having elapsed from the time of the operation.

The body was inspected on the fourth, and the following morbid appearances discovered. The bladder was greatly thickened, contracted, and indurated; its mucous coat was covered with a dark-coloured muco-purulent secretion, and in one or two places it was slightly ulcerated; the rugæ were in some places so deep, as to produce the appearance of small sacculi. All the lobes of the prostate gland were enlarged, and of a hard, almost cartilaginous texture: the middle one, which projected into the bladder, was of a pyriform shape, and completely covered the orifice of the urethra; on its apex there was a small patch of superficial ulceration. The right kidney contained a cyst, the size of a pigeon's egg, which was filled with a straw-coloured fluid, like urine. It was seated in the cortical substance of the gland, but did not communicate with its pelvis. The inferior half of this kidney was soft and disorganized. The left kidney was small, and its natural structure completely changed. It contained a number of hard, greyish-coloured tubercles, as also pus and small calcareous particles. The rectum, immediately within the sphincter, was surrounded by a large indurated ring of hemorrhoidal tumours of a deep purple colour." 124,

It will be observed, that in the preceding case the prostate was ulcerated, the bladder in a state of chronic inflammation, and the kidney affected with "greyish-coloured tubercles, pus, and calcareous particles." Mr. Brodie has warned surgeons against operating on patients with ulcerated prostate, and relates, if we remember right, three cases in which the operation proved fatal. In this instance the ulceration was probably not so extensive. In patients who have suffered long from stricture, or stone in the bladder, it is not an uncommon thing to find one or both kidneys studded with numerous small abscesses. They appear to commence as small, solid, yellowish depositions, which gradually soften, and become as they enlarge converted into pus, or pus takes the place of the more consistent deposition. The kidney thus affected would seem to be in a state of chronic inflammation, its capsule peeling off with facility, and its substance being more or less injected. Patients thus affected bear operations on the urinary organs extremely ill. We have seen a man die from the introduction of a catheter, and after death this condition of kidney was found, with a small abscess at the neck of the bladder, opening into the urethra. This patient had an old and bad stricture of the urethra. Such persons die with typhoid symptoms, and, as in other affections of the kidney, there is a great disposition to coma.

Dr. Macfarlane adds to the cases already mentioned, four in which lithotomy was successfully performed in children. The fourth is the only one possessed of interest. The child in that instance was in a very unfavourable

state of health, and every thing seemed to conspire against the success of an operation. But it was successful and completely so. We regret that we cannot find room for the details, but we insert with pleasure the following exposé of Dr. Macfarlane's sentiments on an important question in practice.

"It is hardly possible to meet with a case more unfavourable for operation than the one now detailed. I believe that all those surgeons who are ambitious to acquire and maintain a reputation as successful lithotomists, and who are careful in selecting their patients, would have declined operating on this case, as well as on some of the others already narrated. I am not satisfied, however, that any surgeon, from a morbid anxiety about his own reputation, and a wish to be able to exhibit a long list of successful cures, is justifiable in denying to the diseased, even in doubtful and unfavourable cases, that professional assistance which both humanity and science claim at his hands. I am by no means an advocate for the knife, unless there is a prospect of its being successfully employed; nevertheless, when it is the only means we possess of prolonging existence,—why, even when the prospect is not inviting, should any selfish feelings prevent us from having recourse to it." 128.

The succeeding case is one of much interest, and our readers will readily see why.

Here the present notice of this work must terminate, but many of the remaining cases will be noticed in the Periscope department of this Journal at convenient opportunities. None have been more earnest than ourselves in recommending our provincial surgeons to publish the results of their experience, and we feel convinced that, if they follow the example now set them by Mr. Fletcher of Gloucester, Mr. Clement of Shrewsbury, and Dr. Macfarlane of Glasgow, they will materially contribute to the advancement of their profession, and raise the reputation of provincial surgeons and of themselves. It is not every one who can write a book worth reading on any one subject; but all well-informed and candid practitioners can communicate what they have seen, and contribute to the accumulating stores of facts. The advice which we should give would be this:—Be scrupulously accurate—be concise without niggardly and unprofitable brevity—and endeavour to group and arrange your cases so methodically, that while each individual shall have its value as a separate fact, they shall still act en masse, and serve for those generalizations without which science can never be materially advanced. Thus we would have surgeons give the general expression of their experience with remedies or with operations, whilst they select such particular cases for particular notice as they deem most fitting. In fine, we hope, ere long, to witness a systematic plan of clinical reporting adopted by our provincial brethren. None will be more happy than ourselves to aid this most excellent object in every possible manner.

XIV.

THE SUBSTANCE OF THE OFFICIAL MEDICAL REPORTS UPON THE EPIDEMIC CALLED CHOLERA, WHICH PREVAILED AMONG THE POOR AT DANTZICK, BETWEEN THE END OF MAY AND THE FIRST PART OF SEPTEMBER, 1831, AS TRANSMITTED TO THEIR LORDSHIPS, &c. &c. By *John Hamett*, M.D. Octavo, pp. 190. (With a Map.) Highley, 1832.

OUR readers are aware that in No. 31 of this Journal, for January, 1831, we inserted a long paper, containing extracts from this Official Report of Dr. Hamett, not then published, and which we accidentally got possession of. The whole Report is now before the public, and is highly deserving of their attention. For the above reason it will not be necessary for us to do much more than announce the publication of the work, our former paper being an analysis of its contents. We deem it proper, however, to observe that the intelligent and zealous author was commissioned by Government, in June, 1831, to proceed to Dantzick, in order to investigate and report upon the epidemic raging in that city. He did so; and discharged his duty with equal assiduity and talent. But, alas! Dr. Hamett is not a "man of the world!" Had one of the contagion-hunters of London gone to Dantzick, he would have returned with a budget of stories, dressed up for the "Powers that be," or rather the powers that were, filled with all manner of tales and hearsays tending to keep up quarantine restrictions, and elevate the crests of the *Doctrinaires!* But Dr. Hamett was an honest man—that is to say, a fool for his own interest (no man should think of the public when *himself* is concerned) and reported the truth to the Privy Council. The Lords of the Privy Council could be small judges of the matter, and as his Reports were necessarily referred to other tribunals, it was easy to foretell their fate.

The author was marked as a black sheep—

Hic *niger* est—hunc tu Romane caveto

was written upon the Official Report—and one of the most important documents was—no more! It happened, however, that Dr. Hamett took the precaution of having them copied and authenticated at Dantzick, otherwise the missing paper would never have seen the light.

"On arriving in London, I learned that a Committee of the College of Physicians had received instructions to draw up, in a concise form, the facts in my Reports connected with the Epidemic at Dantzick, together with the description and treatment of the disease. This task the College transferred to myself, and my Reports were directed to be given up to me accordingly. I received all back, except *Medical Report A*, containing a mass of circumstanstial evidence, in support of my conclusions, that the disease had not been imported into Dantzick, and that it did not prove contagious in that city. This Report, it will be proper to state here, comprised certain authentic isolated cases of Cholera, and the four first acknowledged cases of the Epidemic, which had all occurred previously to the first arrival of vessels from Russian ports, together with authentic communications from

the physicians in charge of the different Cholera Hospitals, and from Dr. BAUM, Physician-General of the Town Hospital. This important document I was unable to recover, although I made proper inquiry for it.

It appeared that the Board of Health, instituted in the beginning of the Summer of 1831, had duly received the medical report in question; but that, at the time of my arrival in London, it was not in possession of the Committee of the College of Physicians,—subsequently instituted, and at the same time, I believe, with the Central Board of Health,—as will appear from the following extract of a letter, dated Nov. 30th, 1831, from the Secretary of the Committee of the College to me:—

'I have to regret extremely that I did not send you Medical Report A before you quitted London. One of the Members of the Board, who did not hear it read publicly, took it home, and never returned it,—and I have been unable to recover it. I must again express my great regret in having exposed you to additional trouble.'

The Committee of the College would, I need not say, most certainly have delivered up that Report with the rest, had it been in their possession.

In a question of such vital importance as that of the contagion of Cholera, it is not a little singular that such a document should be thus missing. Had any accident happened to me whereby my papers had been lost on my passage home, or had I left Dantzick without getting the rough drafts of my Reports authenticated, which I might have done but for the friendly and judicious advice of Mr. GIBSONE, the British Consul there, my Reports, with only the remaining facts furnished in support of my conclusions, though highly important in themselves, must appear deficient.—The isolated cases, and the first four cases of the Epidemic, contained in that Report, I have inserted in the history of the disease; and the communications from the physicians before-mentioned, in the article of *the Question of the Contagion of Cholera at Dantzick, considered solely from Facts.*

Finding, on my arrival, that the principle of contagion had been adopted by Government—and as my details upon the subject, with the inferences drawn from them, were decidedly in opposition to that principle, I had some reason to apprehend that such extracts as I had to make from my Official Reports, would not be published,—still, as containing so many facts of high importance to the public, I imagined that they would not be overlooked.

Having, without delay, made out Extracts from my Official Reports, 'they were approved of, [as I was assured by authority, without one dissentient voice, by the Committee of the College of Physicians,'—and recommended to the Privy Council in the following terms:—

'The Committee of Physicians, to whom the Reports of Dr. HAMETT upon the *Cholera Spasmodica* at Dantzick were submitted by His Majesty's Privy Council, have approved of the accompanying Extracts, and recommend the printing of them for the public information, as a very valuable addition to the present knowledge of the disease, procured by great diligence and painful and unremitted observation.'

From this official recommendation, it evidently appears that the Committee of the College behaved in a liberal,—as, indeed, they previously had in a courteous manner to me. Pursuant to this recommendation their Lordships ordered my Extracts to be printed,* and a proof copy was, in due time, sent to the Superintendent-General of Quarantine. But, notwithstanding the said recommendation and consequent order, they were not published,—and yet, however paradoxical it may seem, they were not suppressed by Authority.

* "An attempt was now made by the Superintendent-General of Quarantine to induce me not to print the authorized Extracts above-mentioned."

After the first rough copy had been printed, it was in vain that I waited in expectation of hearing of an order being given for their publication. On one occasion, indeed, it was indirectly intimated to me by the Superintendent-General of Quarantine, that the Privy Council did not sanction their publication,—but this, not only from what I have just stated, but according to what I have since learned from authority, could not have been the case. The reason, ultimately given for delay in the publication by the publisher of the Official Reports upon Cholera to Government, was, that it was intended to bind up and circulate them with the second edition of the St. Petersburg Reports, not completed. This was rather an unfair arrangement, inasmuch as the facts and results of the two Reports were diametrically opposite, and inasmuch as the contents of the latter were apparently greater; while the comparative labour and observation bestowed upon each could not be readily perceived, except by such persons as are acquainted with the various consequential and inductive steps necessary to be pursued in the investigation of epidemics"—*Introd. p.* xi.

Such are the tactics of the *ultra*-contagionists in this country—and such have been the tactics throughout every ramification of that faction, from the metropolis down to the dirtiest village of Scotland and Ireland. How we have resisted the demoralizing doctrines of quarantines and contagion is well known to our readers. The above extract contains a sample, and a very *favourable* one, of their manœuvres in a bad cause. As such we have recorded it, for the edification of the present and future generations.

It is some—but a small consolation, to find that our worthy, not worldly, author has had the satisfaction of receiving the following brief and official acknowledgement of his zeal and diligence.

"Council Office, Whitehall,
25th August, 1832.

SIR,

I am directed by the Lords of His Majesty's Most Honourable Privy Council to inform you, that they will accept with pleasure the dedication, which you are desirous of making to them, of your Medical Reports on Cholera; and their Lordships take this opportunity of renewing to you the assurance of their satisfaction at the diligence and zeal, which you evinced in the performance of the very arduous duty imposed upon you, in your Mission to Dantzick, in June, 1831.

I am, Sir,
Your obedient Servant,
C. C. GREVILLE."

To Dr. Hamett.

To attempt *an analysis* of the present volume, would be to repeat the whole of what we published in a former Number, with additions. We can only, therefore, recommend our readers to patronize the author, who has gone to a great personal expense, by procuring the work; or, at all events, by proposing it in the various book-societies throughout the kingdom.

There is a long chapter (XII.) appended to this edition, entitled "the Question of the Contagion of Epidemic Cholera more fully considered," which we would strenuously recommend to the perusal of contagionists and anti-contagionists. It is a very able document—and may serve to confirm the creed of the latter party, and mitigate the confidence of the former.

XV.

Observations on the Medical Treatment of Insanity. By *E. J. Seymour*, M.D., Physician to St. George's Hospital, &c.

This little volume contains the substance of Dr. Seymour's Croonian Lectures, delivered at the College in 1831, and the author considers himself much indebted to the learned treatise of Dr. Guislan, of Ghent who has written with much talent on maniacal diseases.

Dr. S. bespeaks indulgence for his observations on insanity, on account of the extreme difficulty of the enquiry, and the darkness in which it is enveloped. A drawback on the progress of mental pathology is, he thinks to be found in the circumstance of insanity being chiefly attended to by exclusive practitioners in that branch of the healing art—"medical men who resign the care of other diseases, and, with few and eminent exceptions, lose the power of investigating the aberrations of intellect, in conjunction with the other functional diseases of the human frame."

Dr. Seymour aims only at the merit of a faithful and judicious compiler—at laying before the public "an outline of the labours of others"—an analysis of what has been recommended with the view of simplifying our knowledge of causes, and determining upon what cases are, and what cases are not, remediable in the present state of the medical art. Although insanity is too often incurable, yet, under judicious treatment, a considerable proportion of patients recover. Thus, Mr. Warburton's establishment contains 400 lunatics. In the year 1829, of 200 admitted, 50 were discharged in the course of the year. Instances are given, from other authorities, of the cure of insanity under apparently desperate circumstances.

Dr. S. next adverts to the division of those cases which result from moral, and those from physical causes. The physical causes of insanity are very puzzling. We see great organic diseases of the brain without insanity—and great insanity, without any organic affection appreciable by the senses. Still we must suppose that functional disorder of the brain exists, and is essential to, the phenomena of mental derangement. In the brain, as in the stomach, liver, kidneys, and other organs, intense functional disturbance may exist, and that for a considerable time, without any change of structure that can be demonstrated on dissection. This is the key to the difficulty respecting the pathology of insanity.

Dr. S. dwells very properly on the disturbances of the cerebral functions from sympathy with various other organs, as the stomach, heart, liver, &c.

"But the most evident causes for the disturbance of the functions of the brain, from sympathy with the disturbed functions of other parts, are found in the various changes which occur in the generative system. In women, from the commencement of puberty to the termination of that period, when the uterus becomes unfit for its specific purposes, the brain is liable to be disturbed by every change, whether healthy or disease, of the uterine system. In early life, when the catamenia first occur, at each returning month, in delicate girls principally, the mind is affected. If imperfectly established, great bodily pain, with violent headachs, arise; if the catamenia are profuse at an early age, quick and irregular action of the heart, and arteries, faintings, fretfulness, and visionary alarms, and even epileptic fits, ensue. Some females are obliged at this period to seclude themselves entirely from the family; their minds being disturbed in every gradation, from feelings of distress or discontent to absolute aberration of intellect. Who shall attempt to describe all the variations of spasmodic disease which attend this period of life? Sometimes the disturbance of the mind is shewn in the numerous forms of imposition attempted by the patient on the attending practitioner. Sometimes inordinate pains are complained of in the region of the bladder; and if the disease be doubted, the patient will have recourse to some means, in her own idea conclusive, to convince all beholders: thus persons, at this period of life, have professed to have passed gravel, or sand, which, on examination, proved that it never could have been generated or contained in an animal body.

At other times, inordinate vomiting is the symptom for which medical advice is required; and it has occurred to me, as it has doubtless to others, to find this incessant vomiting kept up by substances taken for the very purpose by the patient herself. Sometimes the patient cannot swallow; at other times she loathes food, and will exist on almost incredibly small quantities of it: and yet these patients have received an education which would make them shun falsehood on any other subject, and are of a rank in life where nothing was to be gained but pity, except that commiseration, attention, and astonishment, which excite and occupy the mind.

Is it possible to conceive such cases, otherwise than the result of an alteration in the mental faculties nearly allied to mania? As far as I know, such cases always occur in young females, and mostly in persons labouring under some deviation from a healthy condition of the menstrual discharge: I have never met with, nor heard of a case of this description, in women who have borne children." 23.

Among the physical causes of insanity, the introduction into the system of alcohol, opium, and mercury is generally mentioned by authors—the former more especially. Moral causes, however, are far more productive of insanity than physical causes. They are very numerous, including almost the whole of the passions, and the various mental emotions, dolorous or joyful, arising from the accidents and diversified scenes of life. Of 442 cases of mania, examined by Esquirol, 121 arose from physical, and 321 from moral causes. Other physicians, however, have not found the proportion of moral causes so great.

In the second chapter, Dr. S. discusses the moral causes, which are chiefly grief, jealousy, ambition, terror, and superstition. Monomania, mania, and amentia are defined, and examples of each adduced. The most imperfect of the external senses—hearing, is that which is most frequently affected. Nothing is more common than to find men asserting that they have communications with the invisible world—that spirits whisper to him—or that animals abuse him—or that his enemies employ tubes, constructed on acoustic principles, to goad him into madness. Dr. Seymour saw a lady who heard, with her left ear, swearing and obscene expressions.

The memory is often affected, and may be either increased, diminished or destroyed. In monomania it is generally increased; in mania, it varies from great strength to great feebleness. Patients restored to reason often remember, with remarkable exactness, what befel them while under restraint.

It is well known that monomania is the most difficult form of insanity to discover, the patient often concealing his infirmity or delusion, especially if he imagines that the inquirer is endeavouring to detect it. Instances of this kind are innumerable, and have even been portrayed by novelists and dramatists. We may refer to Makenzie's Man of Feeling for instance. Dr. S. is led from this consideration to another—the expediency or otherwise, of confining a monomaniac. It would appear that such cases frequently end in suicide. Dr. S. mentions the case of a lady, who had contracted suspicions, that those about her harboured malignant intentions towards her. Suddenly, and in the night, she arose, and threw herself from her window into the area, breaking both her legs by the fall. Dr. insists on the propriety of great caution in examining monomaniacs. They may display the greatest powers of mind, till, by chance, the cracked cord is struck. Then is the melody marred, and the discordance becomes apparent. Dr. S. expresses, then, no decided opinion on confinement or non-confinement. It would obviously be mere twaddle to lay down a dogmatic rule. An intelligent man will be guided by the circumstances of the particular case, in spite of any dogma, and a fool will not be the better for a rule, which must necessarily be half eaten up with exceptions.

Is it better to remove patients from their homes and usual habits? As a general thing it most undoubtedly is so; the common experience of men has decided it. But, under peculiar combinations of circumstances, an opposite plan may be adopted. The remarks of the late Dr. Gooch on this subject, and the case of the lady, told in his characteristic style, must be fresh in the minds of many of our readers. The cases in which this is recommended by Dr. G. are those in which the patient is not recovering, but when month after month elapses without amendment, and the mental delusions assume a shape accessible to moral impressions. We must not expect much from this method.

Dr. S. next adverts to coercion. There has no doubt been a good deal of cant on this subject; yet still it is a distinguishing and a gratifying feature of the state of society, that their feelings or their prejudices, say which you will, have abolished the employment of violence and cruelty, and rendered the corporeal management of the insane both more humane and more philosophical. The balance of good inclines greatly to this side, though now and then a maniac may abuse the gentlensss of those who have the charge of him. Dr. Heberden's predilection for cribs and straw may, for aught we know, be very just; but certain we are, that it is better for mankind that the feelings both of medical men and the public should run counter to those agreeable receptacles for madmen. Dr. Seymour feels convinced, from observation, that polished iron handcuffs are more merciful engines of coercion than leathern gloves; or, in the cases of the very violent, waistcoats. Dr. Seymour reprobates, feelingly and eloquently, the abominable maxim of the Augustan Celsus—"Ubi perperàm aliquid dixit aut fecit, fame, vinculis, plagis coercendus est."

Of all the remedies applicable to derangement from moral causes, employment and exercise are perhaps the best. All are agreed on this point. Bodily exercise seems, for evident reasons, most applicable to monomania. In mania it is chiefly useful during the lucid interval and convalescence; and even during the paroxysm, if it can be strongly exercised until some degree of weariness can be induced, calm, tranquillity, and sleep, not unfrequently ensue. The kindlier feelings and affections of the mind, when excited, tend to banish melancholy. In the upper classes, especially among females, the tending of domestic animals, rabbits, pigeons, &c. has been found serviceable, and Dr. S. found many of these means resorted to in the Quaker's Retreat, near York.

Dr. S. next alludes to the power of enduring cold which maniacs are said to possess. We think it probable that this is greatly exaggerated. It is well known that man under the influence of strong emotions, or under the physical influence of stimulants, as alcohol, will resist to a certain degree, the operation of external irritants or injuries. Maniacs, in some cases, are nearly similarly circumstanced, their minds exclusively directed to some object, or occupied with one feeling, or their whole frame under the influence of maniacal passion or excitement. In such it is likely that cold will be comparatively innocuous, or that blisters or cauteries may be applied unregarded. But we doubt whether this immunity be general, and we are happy to perceive that this view is taken by Dr. Seymour.

"Notwithstanding such observations and examples, gangrene not unfrequently seizes the extremities when frostbitten, and the usual diseases of diarrhœa, and inflammatory affections of the thoracic viscera, not unfrequently attack maniacal patients. The best explanation of these apparently contradictory facts is to be found in the perverted mind of the patient; his limbs suffer, for their sensibility is probably not really altered from the natural condition. But the disordered mind perceives not the bodily ailment, or, to use the illustration of a foreign writer, a blister applied does not, perhaps, attract a momentary attention from the maniac, but it does not the less produce inflammation and suppuration." 56.

It has often been a matter of surprise, that an invasion of mania occasionally disperses or mitigates other maladies, and, inversely, that an attack of acute disease will suspend or altogether remove mania. That this is occasionally the fact there can be no question, nor need it occasion our astonishment. Is it not known that pregnancy will at times suspend the march of phthisis, that acute diseases will put a stop to pregnancy, and cause abortion? Do we not see cold produce inflammation of the lungs, and check gout, and the external appearance of gout relieve internal inflammation? Is it not on the principle implied in the frequency of these facts, that we found the employment of our long list of counter-irritants? In short, there is nothing surprising in the matter. Epidemic diseases are also said to have seldom prevailed in lunatic asylums. But this may be owing to their seclusion, their regularity of habits and of diet, rather than to any preservative power on the part of madness. The cholera has prevailed in several lunatic establishments. Dr. Seymour relates several curious and interesting cases of mania relieved or removed by other diseases. We need not dwell any longer on the subject.

The third chapter or lecture is occupied with the consideration of treatment, or the application of medicine to the cure of insanity.

We must first, of course, investigate the causes, and ascertain, as far as possible, whether there be or be not organic affection of the brain. If there are very evident symptoms of vascular excitement, antiphlogistic measures, and blood-letting may be had recourse to, but with caution. The experience of all who have had the management of the insane on a great scale is against blood-letting. Pinel speaks strongly against it. In what are even called the *high* cases, it is not the vascular system that is powerfully excited—it is the nervous system. Bleed largely, nay, in some cases bleed at all, and you produce idiotcy, or typhoid collapse. Let us hear what say Messrs. Beverley and Phillips, the gentlemen who have the charge of the patients in Mr. Warburton's establishment.

"The number of patients admitted with vascular excitement, requiring blood-letting, are very few indeed; we seldom or ever use the lancet in cases of excitement, if there is no evident effect upon the brain from increased arterial action, so as to lead us to fear an approaching attack of apoplexy or paralysis. The reason we do not use the lancet in cases without any such symptoms existing of disease going on in the brain, is, that we have done so in several instances, and the result was not favourable; the patient became reduced from the loss of blood, and the excitement not abated; the powers of the constitution gave way, the tongue became typhoid, and the patient sank into a state of collapse, and died." 69.

Bleeding then is in the gross inapplicable to these cases. What are we to do? There is a great mass of experience in favour of cold, which may be used in the form of ice—of the shower-bath—or of the douche. Dr. S. relates two instances of the beneficial effects of ice applied to the head. He found it very useful in the low maniacal delirium attending the epidemic typhus that prevailed some little time ago amongst the poor of London. The following is the report of Messrs. Beverley and Phillips on the shower-bath.

"We have found, in some cases, the shower-bath of great service; but it appears to us, from the experience we have had of it, that it is more beneficial in cases of a very violent nature, with increased vascular excitement, as we have given it a trial in cases of various descriptions, and in some without the slightest benefit.

There was a case admitted into this Establishment, evidently a case that was completely cured by the use of it. A gentleman, aged 30, small, and of a light complexion, who had been studying hard, and constantly confined to one room, was attacked with furious mania; thought he had found out perpetual motion, and that he could make the sun stand still. Pulse very quick, 120, and small; pupils contracted; imagined he could reach any thing he saw, and grasped at them; incessantly talking; tongue furred and dry. We ordered him to go into the shower-bath. His extreme violence put us so on our guard, that we got six keepers to take him there. We persuaded him, with much difficulty, to go in, by saying it was only a sentry-box. On hearing that, he immediately went; the door was closed and secured; the shock was so unexpected, that he screamed, and held his breath for a short time after the shock was over; then gasped, and knocked the sides and the door into pieces, and stepped out; but was immediately secured, rubbed dry, and put to bed. He had a little refreshing sleep during the night. In the morning he vowed vengeance against the doctors for murdering him. We could not prevail upon him this day to go into the bath, which obliged us to confine and carry him there. He bore the shock better; was taken out, rubbed, and put to bed. Slept better; the tongue appeared cleaner, and he was not so violent. Bowels open; he begged to be released from confinement, which was complied with. He took a little exercise; we put him in the shower-bath almost without any difficulty; sleep returned; gave him a dose of calomel and colocynth; more rational; he inquired what had been the matter; thought he had been asleep, and in the evening begged himself to go into the bath and have more medicine. From that time he became tranquil, took mild aperients, and was discharged well in a fortnight from the date of his admission.

We have had several cases, nearly of the same nature, where the shower-bath in its results proved invaluable." 73.

Thus it appears that the shower-bath is chiefly applicable to cases of dementia. Dr. S. has not found the douche much employed in our establishments.

As cold is useful in mania, so the warm-bath appears to have been beneficial in melancholia. Several testimonies are given in favour of it. Blistering or an eruption produced by tartar-emetic on the scalp have been found useful. At Mr. Warburton's establishment these means have been abandoned, in consequence of their tendency to induce erysipelas. In robust habits an eruption from tartar-emetic over the biceps humeri has proved more advantageous. Tartar-emetic, as an emetic, has done good in melancholia, in doses sufficient to keep down the circulation, it has been serviceable in paroxysmal mania.

Our author passes to the consideration of opium, "the greatest blessing ever accorded to mankind." We think there have been greater, but let them pass. Dr. Seymour labours ingeniously to explain the various opinions on its powers. Somehow or other the world are not contented with it, and chemist after chemist has laboured to fix its good principle and separate its bad. Hence the many prepartions of opium, hence the forms of morphia. Let us look at the experience of Messrs. Phillips and Beverley on this head. It is an interesting extract.

"'We have found the acectate of morphia useful both in the excited and the low form of insanity. We have also found it useful in cases of fixed delusions, but not of any great standing, and more useful in the low than the excited form of the disease. Of five cases of melancholy, three got well; the remaining two are certainly improving under the use of this medicine. Of five cases of excitement, two were discharged cured; one remains much improved; two received no benefit. It is necessary to observe that we have used this medicine in several cases without taking notes, and the result was similar to the two cases mentioned, that is, without benefit. It appeared to us that morphia did not produce the same good effect in excited as in other cases, unless there was an occasional interval of reason. In the cases mentioned we have commenced with a fourth, and have not found it necessary to exceed half a grain. At present we have a patient taking half a grain dose every night with decided advantage, and we think the case very interesting, and proving the extraordinary effect of this medicine in cases of melancholy. A woman, of the age of 36, the mother of four children, was attacked with depression of spirits while pregnant of her last child. She did not feel the attack before she was quickened, but immediately after she had a strong desire to destroy herself and children. This continued during pregnancy. After she was delivered she became worse, and attempted to commit suicide several times, and described her feelings, which is not common in such cases. She continued in this state, not fit to be trusted without a strict watch. She was sent here about two years ago; and what is extraordinary in her case is, that about noon all the feelings of desire of self-destruction left her. This occurred within the last three months, from which time they have remained the whole of the day. Various means were tried without effect. Our first idea, from the regularity of the attack, was to treat her as an intermittent, which failed. About a fortnight ago we gave her the morphia, beginning with a fourth of a grain, and gradually increasing it to half a grain: after taking the second dose, one-third of a grain, she slept all night; in the morning was cheerful, without feeling the propensity to destroy herself. The third day she had a return, which lasted until noon; the dose was then increased to half a grain. The fourth morning she had not any return, and continued well until the fifth day after the half-grain dose was given, when she had a return from five o'clock in the morning until nine, a paroxysm three hours shorter than any of the preceding. She is now free from any desire of destroying herself.'

The following is a case of the excited kind, in which this remedy was employed with advantage:

'A. R. æt. 36, was admitted in February 1831, in a very high state of nervous excitement; she was a widow, and mother of four children. When admitted she was much excited, and constantly talking. Tongue dry; pulse very quick; skin moist. She was excited to such a degree that she tore the jacket and clothes to ribbons; refused her food; and would swallow nothing without force. She was ordered a pint of porter daily, with beef-tea and arrow-root. This diet was considered necessary, because if so much excitement continued without support she would fall into a state of collapse, and die. All our

efforts were unavailing in giving her food. We determined to try the morphia. The first night it had not the least effect; she was noisy, screaming until morning; on the following day refused her food, and the excitement was unabated; we got the porter and arrow-root swallowed with some difficulty; the morphia was increased to half a grain; did not make any noise during the night, and appeared to be drowsy in the morning; but when she was spoken to answered in a very incoherent way, and the excitement continued; the porter and beef-tea was given with less trouble: the medicine repeated; slept well during the night; appeared on questioning her in the morning, to have a slight return of reason, such as to inquire where she was; took her food better; tongue moist; pulse not so quick, and bowels open. Ordered two pints of porter, beef-tea, and arrow-root, as usual. Medicine repeated at night; slept very well; more rational; began to cry; took her food much better; drank the porter, and appeared to relish it: the medicine was repeated every night until the 6th of March, when she appeared perfectly well; the morphia was discontinued; she employed herself, and was discharged 14th April cured."*

Our space is so limited that we must make short work of the remaining ten pages. In them are discussed the merits or demerits of hyosciamus, belladonna, hydrocyanic acid, arsenic, diffusible stimulants, especially camphor, purgatives, with an eulogy on the oil of croton, the oil of turpentine, and diet. Dr. Seymour agrees with those who have found an antiplogistic diet productive of evil. Full diet, even stimulants, are often productive of advantage in "high cases." Dr. Seymour winds up by recommending educated physicians to study insanity, and rescue an investigation so interesting and so honourable from the hands of quacks. He also tells them that they must often come between the public and their prejudices, and that, being thus awkwardly placed between two fires, they must not desert their colours. What those colours are it would be hard to say, but we fear they are not the *union-jack*.

In conclusion we need scarcely recommend this little volume to our readers. It does no discredit to Dr. Seymour's ingenuity, intelligence, and judgment. It is not so original as his work on the ovaria, which we had the pleasure of reviewing, but it is calculated to lead physicians to the study of insanity, and, what is better, to induce them to regard it as a curable rather than incurable disease. Both these aims are worthy a philosophic and cultivated mind.

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* "On inquiry, I find that the good effects of morphia still continue in cases in the White House. The muriate of morphia is now preferred, and is said to produce less nausea than the acetate.—Dose, gr. ¼.

Periscope;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

I.

Dr. Hancock on external Stimulants.

In the London Medical and Surgical Journal, for Septembter 15 and 22, there is a paper on the utility of external stimulants in internal inflammations, of which we shall here take a brief notice. Dr. H. first makes some observations on the sensibilities of certain internal tissues, as of the mucous membrane of the stomach and bowels, and then proceeds to the consideration of cutaneous stimulation, as offering a powerful means of arresting the progress of inflammation, "by deriving the blood and humours from internal congested parts, equalizing the circulation, restoring a mutual balance between the powers of the heart and the external capillaries, and so ultimately obtaining the desired resolution." While Dr. H. acknowledges the utility of blisters, he considers them, in severe cases, as very partial remedies, being too circumscribed in their operation. The more general application of friction to the skin with lime-juice and pepper, or vinegar and common salt, in cases of severe internal inflammation, is proposed by our author. The following extract, containing facts rather than arguments, we shall insert here, as it illustrates Dr. Hancock's views on the subject of external stimulation.

"The bird-pepper (capsicum frutescens) is the kind I have always used, it being more hot and pungent than the other kinds in general. A small handful should be well bruised in a mortar, so as to reduce the seeds and other parts to a fine powder or mass. The powder sold in the shops should not be trusted, it is shamefully sophisticated, like most other articles. Let the former be mixed with an equal quantity of table salt, and add a pint of lime-juice or good vinegar. With this composition the body is to be rubbed entirely over, until it shall produce a sufficient demonstration of excitement and pain.

In a case on Plantation Anna Regina, which I propose to annex to this paper, the patient was so far advanced as to be quite insensible to the stimulus until the second day of the application, and shewed no sensibility till after at least five or six repetitions of the process.

Another instance of the value of frictions with pepper and lime-juice, is that of a boy, George, belonging to Mr. Evans, one amongst several unexpected recoveries from violent inflammation, in which early bleeding had been neglected, or in which it had failed or proved insufficient, although accompanied by blisters and the usual treatment.

Several other instances occurred in my practice, giving further proofs of the efficacy of the pepper frictions in vehement inflammation of the lungs, as two at Exmouth, an African and a Creole, who had each a violent attack of peripneumony about the same time, and in both of whom a relapse occurred, or an aggravation of symptoms from exposure to air, by opening the windows of their apartments during bad weather.

The effects of the remedy were most strikingly manifested on the Creole, Billy. My attendance was required at 9, p.m. when I found him labouring under an excessive aggravation of his disorder, with

difficult respiration, cough, anxiety, hot dry skin, and small jerking pulse.* The frictions had been used some days previously, but were discontinued, owing to the great and decided relief they had afforded. I stood by and assisted in performing the operation effectually by smart frictions over the whole body with a small handful of capsicum, bruised down with some table salt and lime-juice (we used no weights or measures for this composition.) He said it burnt his skin very much, but most readily submitted, however, as he knew, he said, it would help him, as it had done some days before. On the following day he told me he had not slept much from the burning of the skin, but felt quite relieved of the inward pain. His skin was moist, pulse soft, expectoration free, and he experienced no difficulty in breathing. The application was afterwards repeated a few times more moderately. He had no further symptoms of complaint of the chest, except cough and expectoration, which gradually declined; but the severity of the disease had been such as to cause a serous effusion or anasarcous swelling at the feet, and puffed belly, for which we directed bark, wine, and gentle exercise, and he recovered.†

Soon after this the man named Gilbert, also of Exmouth, was taken with the same complaint, (a very severe peripneumony,) but shortly recovered under the same *regimen*, which the sick nurse said caused him to perspire very freely; and indeed I always found it wonderfully to remove the constriction of the skin in cases where bleeding was inadmissible, and when all hope from this, or other means, were gone by.

The man Mars, on the same estate, recovered from pneumonia, under the same remedy, the year ensuing, and that from an almost hopeless condition. Another case of the same kind, Richard, at Hampton Court, rapidly recovered from a severe attack of peripneumony, under the use of the pepper frictions. I was absent, and the hospital attendants commenced it of their own accord, on the second and third day of the disease, as from having seen its benefits in so many previous cases, they considered it a certain remedy. This was stated to me by Mr. M'Lenan, a very careful and excellent young man, who superintended the sick-house.

I must not fail to note here a previous case, in a Creole boy, called Wellington, on the same estate, in a vehement attack of pleurisy. He came into the hospital, and was bled twice the same day, and blistered on the next, with a smaller bleeding and blister repeated, and glysters, nitre, and antimony, from the first, with barley-water, &c. On the third day his respiration was difficult and painful; the fever and all the symptoms were greatly aggravated; his appearance was ghastly, his tongue dry, and he swooned on sitting up in bed. This afternoon I directed frictions with bruised pepper (capsicum frutescens), and the lime-juice.* It was faithfully executed by the sick-nurse, who, followed up this idea, had withal bound up his feet, legs, and arms, with the same composition, as a cataplasm. I found him now, to my surprize, sitting up and free from complaint, with composed, easy respiration, and no fever, and saying he felt no pain. The sick-nurse said he appeared to derive sensible relief at about 11 o'clock the preceding night, the hour in which the fever and other symptoms had been aggravated on each preceding night.

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* Tongue not dry, however, as in the case of Benjamin, at Sparta.

† Mr. W. Brummell, the proprietor, was then on the estate, and doubtless would recollect these cases, such was his constant solicitude for his people, being far more like a father than a master. I am happy to say, indeed, that such a character is due to very many of the planters.

* Lime or lemon juice, being ever at hand, was commonly employed; but good vinegar is fully equivalent, and is free from the unpleasant clamminess resulting from lime-juice and salt. I am told this practice has been verified by two eminent and skilful physicians of Essequebo, Drs. Bell and Buchanan.

In this case, I remarked that the sick-nurse seized the idea, and commenced the process with alacrity, owing to her having witnessed its success in two former similar cases of forlorn hope, in which I had prescribed the pepper friction, and in each of which it was applied over the whole body, and often repeated. I accordingly found powdered pepper now sticking all over the boy's skin; and I was told that he complained of nothing from this time but hunger and the heat of the pepper. Such an early, sudden, and decisive resolution is not to be expected from the use of the common remedies, even with the best efforts of nature.

A still more surprizing recovery was effected last year (1824,) by the same means, in the boy called Christmas, at Anna Regina. This lad, (about fifteen years of age,) recovered from the most hopeless state of inflammation which I ever knew, or which it is possible to conceive one to escape from. The patient was in the latter stage of measles, and the inflammation of the pulmonary organs was in this case so excessive, that the patient could scarcely breathe, and was nearly suffocated; had constant fever, dry skin, parched tongue, and such a metastasis on the brain as rendered him delirious and perfectly insensible for about two days. Both the pulse and respiration were nearly extinct. His eye was glassy, and covered with a film; his appearance, in short, was most cadaverous; he was totally unable to swallow, and the *raucum* or rattle in the throat withal announced a speedy dissolution.

Mr. Gordon, the hospital attendant, observing that I had omitted this patient in the prescription-book, inquired if any attempt should be made to give him anything, as cold water, his mouth being dry and parched. I told him, that would only add to his distress by impeding respiration, as we had just witnessed, that nothing could possibly be of any avail; but if he pleased he could try the *rubbing* with pepper and lime-juice. Having seen its effects at Hampton Court, he commenced instantly (having two assistants employed), and diligently repeated it over the whole body. The patient was entirely insensible to its stimulus until many applications had been made, but the following day he began to shew signs of pain, and soon afterwards he spoke, and complained of the smarting *over all his skin*. From this period the fever abated, the tongue became moist, and perspiration ensued. On visiting him the next day he was sensible, and raised himself in bed, and said he must have some soup and wine, which were instantly brought him; he actually appeared like one risen from the grave. The fever and all other signs of inflammation had vanished; he complained of no pain; coughed, with a copious expectoration, which at first was dark and fetid. The rubbing was still repeated two or three times a day, and, although reduced almost to a skeleton, his recovery was rapid and perfect. Mr. Frost, the manager, and Mr. Gordon and others, can attest the truth of this extraordinary recovery. It was, however, only by the most diligent and persevering application of the remedy that the patient was saved.

Soon after this, George, a servant of Mr. Evans, in a desperate peripneumony, recovered under the same treatment. Bleeding and various medicines had been used without effect; both the nurse and patient scouted all other remedies, and boldly asserted that nothing but the rubbing saved him. I was called away for some days, but learned on my return, that in this case, as in the others I had witnessed, the free expectoration and perspiration came on and fever abated, together with freedom of respiration and cessation of pain, in a short time after the frictions were commenced. The patient also soon acquired a remarkable craving for food.

Another most striking case occurred on Sparta estate. The man Benjamin was attacked with pleurisy, or rather peripneumony. He was bled four or five times during the first four days with blisters and the usual remedies. On the fourth evening, finding him much worse, with dry tongue, great pain in the chest, suffocating breathing, and all the symptoms pointing to a speedy termination, the pepper frictions

being resolved on, as the only hope remaining, were promptly applied and repeated several times during the night. He took nothing but barley-water, with a little nitre and an opiate pill. On the morning following he was quite tranquil; the tongue was moist, heat gone, and skin soft and moist. Mr. Campbell saw him well rubbed again yesterday (Oct. 14th). He is now out of danger.

I have passed unnoticed many other cases of less importance, or of less severity.

In similar cases, when remedial treatment can be applied early, the lancet should be employed and the usual auxiliaries, as laxatives, antimonials, diluents, blisters, &c. We ought not to fritter the time and life of a patient under the use of single remedies, as, when a formidable enemy is within the walls, we should not put forward a force in single file to repel his approach, and thus trifle till he gets possession of the castle. Yet, how common is it in physic to trust, as we may say, to a single picquet guard, until the breach has become irreparable.

In fine, I have found the above practice most effectual and decisive, altogether I may say, without a parallel, not having been disappointed in a single instance; and it has been to me a source of high gratification to see patients brought round, under its use, from the most desperate conditions, and such as I had ever before considered to be utterly past recovery."

II.

FEAR OF CONTAGION.

WE have heard of numerous instances of unparalleled selfishness, terror, and even brutality, brought forth by the dread of cholera; but we shall content ourselves, at present, with the following melancholy examples, extracted from an Ayrshire paper, and vouched for by a physician of the first respectability in this country.

"Within a few days after the first appearance of Cholera at Ayr, the Post-man was seized by that fatal distemper at Girvan, and there abandoned, under the prevailing panic of contagion, by all but Samuel Wallace, a poor and humble friend, who, like the good Samaritan, carried the sufferer home, and there administered unto him until he died, and afterwards got a coffin and buried his body. But for these brave and generous offices of christian and brotherly benevolence, his own recompense from his panic-struck neighbours and townsmen, was to drive himself from his own home and family, and compel him to wander until the Board of Health in that populous Town assembled and provided a lodging for him, remote from his own family, there to abide, while their own alarm for contagion should last.

Afterwards, on the evening of Tuesday, the 4th inst. the attention of Dr. M'Tyer, Physician in Ayr, was, when travelling to Maybole, drawn to a poor woman lying on the road-side, a little way beyond the village of Slateford. Upon examination, he apprehended that she might have an attack of cholera, and directed the people at hand to convey her to a place of shelter, give her a hot draught and warm her by all possible means, while he should hasten to Maybole for medical remedies. The Surgeon there to whom he applied followed him back to Slateford with these as soon as possible, and, on arriving at this village, was directed to a small comfortless byre, where he found the poor woman lying on straw, with little covering, and Dr. M'Tyer, with John and James Finlay, two humane inhabitants of the place, who had admitted her, busy in doing all they were permitted to attempt for her relief. Medicine was then administered with a little warm toddy. It was with great difficulty this could be at all accomplished. Dr. M'Tyer was then under the necessity of proceeding on his journey.—The villagers, insane from terror of contagion, refused to give the least assistance, or even to approach the patient, and the Surgeon had the greatest difficulty in obtaining any means of restoring warmth to her

body, by external application, aided then by the two Finlays, alone and while he had dispatched one of them to Maybole, he and the other were assailed by a torrent of abuse, and threats of personal violence, and even of burning the house in which they were with the sufferer, if they should not instantly remove her from Slateford. It was in vain the surgeon attempted to reason with them on the inhumanity and absurdity of their conduct, in forcing her from a place, in which all the danger that could exist from her continuance there—if danger there was—had been already incurred. He was overpowered by a multitude of voices of men and women, repeating their threats, with the additional one of 'dookin of him in the burn,' if he persisted. He was thus reluctantly forced to yield; and Finlay, having placed her on a wheelbarrow, removed her a short distance up the road leading to Maybole. Mrs. Hutchison, a blacksmith's wife, had offered the accommodation she could afford, but they still remained relentless, and would not permit her. She gave, however, some blankets, and her husband furnished hot plates of iron, which were found to be well-adapted for the purpose—for, with all the disadvantages of having only a wheelbarrow, some boards, and a little straw for her bed, and the canopy of heaven for a roof, the surgeon and his few asisstants had succeeded in restoring, in a great measure, the natural temperature of her body, and in diminishing the spasms and other symptoms. The Board of Health, too, having been then made aware of what had happened, the Rev. Mr. Grey, Minister of Maybole, and others of its members, lost no time in hastening to the spot. It was their opinion, as the women had come from Kilmarnock, and as they, therefore, could not think of adopting the apparently unjust and inhumane step of sending her back to Ayr, that she should be conveyed to the hospital which had been provided, about a quarter of a mile from Maybole, and this could easily have been effected without having the least communication with any part of the town. But for this well-meant proposal, they met with much abuse from a mob of the inhabitants, and received from them the intimation, that they were determined to resist by violence any attempt to carry her to that place. As the people of Slateford, too, had equally opposed her introduction into any of the houses there, no course remained but to send her to Ayr, or leave her to perish. Accordingly, a horse and cart having been with difficulty procured, they wrapped her up as comfortably as they could, and dispatched two men with her, bearing a letter from Mr. Grey to the Medical Attendant at the Cholera Hospital in Ayr, where she was admitted, but then so much too late, that she died in the course of that morning.

It is, Sir, in sorrow, not in anger, and against the delusion, which is the sole cause of such enormities, and not against those deluded individuals who have been the misled and ignorant perpetrators, that I wish to bring the facts under general consideration. For I could gratefully bear my personal testimony in unison with much that is far higher and more honourable to the merits, and loyalty, and charity of the people, in these very communities where they took place, in many, I might even say in all, the former times of trial I have witnessed."

The scene acted at Dawlish was nearly as bad. A man, by the name of Vicary, was dragged by force into a cart, and sent 10 miles, to Exeter, labouring under a violent attack of cholera. He died soon after his arrival. It is a consolation, that a coroner's jury returned a verdict of manslaughter against three men in authority at Dawlish!

III.

DUBLIN FEVER HOSPITAL—MEDICAL REPORT—JANUARY, 1831, TO JANUARY, 1832. By Dr. P. HACKAN.

THE above Hospital is an institution of great utility, especially in such a place as Dublin, where fever so much prevails. It appears that cases of fever, connected with

latent pneumonia, are occasionally met with in the fever hospital, and are not a little puzzling.

"Here we have symptoms of pectoral oppression, without cough, (at least with very trifling cough,) and considerable fever, joined to unusual prostration of strength, and rather a small labouring pulse. The stethoscope and percussion afford, in such cases, valuable assistance, pulmonary congestion and obstruction being, with their aid, no longer a matter of doubt. The pulse is accordingly found to rise and fill under the cautious use of the lancet. But here, as in most cases, the physician should, if possible, not order the letting any particular quantity of blood, but be entirely guided by the effects produced, and the relief afforded."

Of late, patients have not been able to bear loss of blood so well as in former years. Dr. H. attributes this to the deteriorated condition of the poor. We are of opinion that it is owing to some unknown state of earth or air, for the same inability has been observed all over Great Britain, and not among the poor only, but among all classes of society.

"The history of these fevers generally commences with despondency, the sad attendant on ruined circumstances, or want of employment; this too often leads on to occasional intemperance, but the destructive habit soon grows, and becomes the fruitful parent of inveterate disease, as well as moral degradation.

This subject leads me to make a few observations on *delirium tremens*, that form of fever well known under the vulgar, but not inapt appellation of whiskey fever. That we meet with this disease oftener now than formerly is certain, but the cause of its more frequent occurrence is not so evident. It may possibly arise from the increased consumption of spirituous liquors by the lower order of people. But this can explain it in part only, as persons of the middle class, among which the disease is also more prevalent now than formerly, are, on the other hand, less addicted to spirituous potations in the present than former times. It appears to me that, in endeavouring to account for this fact, we must chiefly look to the altered state of society in our age, the increase of luxury, the sedentary habits of men in business, added to the anxious cares attendant on mercantile speculation; the immoderate use of tea, coffee, and tobacco, and to other causes, all tending to lessen the tone of the system. The irritability, then, and laxity of fibre produced necessarily under such circumstances, seem to be the great predisposing cause, although 19 out of twenty times the exciting cause is some recent excess, or, as it is usually termed, hard living. Some cases, however, of delirium tremens occasionally occur, (and I myself have seen a few,) which could not have been caused by intemperance, the contrary being ascertained clearly, and the habits of the patient being abstemious.

The pathology of this disease is extremely interesting to the medicial inquirer. The highest nervous excitement co-exists generally in the commencement, with the greatest debility of the sanguiferous system. The former produces the most extraordinary *spectra* to the mind's eye of the patient, and very frequently delirium of a furious and unmanageable kind, requiring the use of the strait-waistcoat. The latter is manifested by a small, feeble, compressible pulse. It differs essentially from typhus, which resembles it more than fevers of another type. If fatal, it generally runs its course in a week —the skin is cool, oftener cold and clammy, the patient incessantly talks to imaginary by-standers, the pulse is small and rapid, subsultus tendinum so constant, as sometimes to render it difficult to feel the radial artery. General sinking, convulsions, and a deceitful calmness of manner usher in death. Should the fatal event not occur in the early stage, the danger blows over, and the case merges into one of ordinary fever. Our chief reliance, from the very onset must be on the free use of stimulants, wine, camphor, and opium. Woe to the unfortunate patient whose delirium is mistaken for that arising from meningitis! Two such fatal mistakes came to my knowledge during the last year. One patient was a man of

robust frame, and of excessively intemperate habits. His delirium had been violent, which was the unfortunate cause of his being largely bled from the temporal artery. The other, a female of slight appearance and delicate habit, the mother of a large family, was, I understood, attacked with fever about eight or nine days before I saw her; delirium supervened; she could with difficulty be kept in bed; blood was freely taken from the head, and her manner became more calm. But in this, as the former case, the calm was deceitful, as the fatal event soon proved. It would, however, be a great mistake to conclude, that in no case of delirium tremens should blood be taken from the patient. On the contrary, reaction in young robust subjects sometimes takes place after the third or fourth day, to that degree, that moderate local bleeding is not only useful, but necessary. The rapid tremulous pulse, and clammy skin, and subsultus, are found to give way to a hard pulse, and warm dry skin, and flushed countenance. At this period, moderate purging becomes still more necessary. It is really sometimes surprising to see what a quantity of dark offensive matter is discharged for some days, demonstrating the great extent over which morbid action of the liver, and of the membrane of the intestinal canal, takes place. In such cases, then particularly, we must not confine ourselves exclusively to stimulants and opiates, nor push the use of these too far. Following the plan of cautiously combining purgatives with these, we may generally expect a favourable result."

Our author has come to the conclusion, that fever does not always depend on topical inflammation, notwithstanding the doctrines of Clutterbuck and Broussais. We shall conclude with the following quotation.

"Next in absurdity to this is, in my opinion, the specious doctrine of great simplicity of practice in fever. It is certainly very convenient for medical men of limited experience, or idle habits, or destitute of practical acumen. Such persons will sometimes talk very fluently of disease, but when brought to the bedside of the patient, it is surprising how far they sometimes mistake his positions. The true character of the pulse, the proper time, manner, and measure of depletion or stimulation, the tracing disease through its various channels to its seat, —these are subjects about which they, in practice, blunder grossly, however confidently they may speak, or even lecture on them. Among this class of practitioners we certainly cannot place Dr. Elliotson, a physician of great talents and deserved eminence, to a statement from whom in a clinical lecture on his treatment of fever, published in The Lancet, I beg leave to allude. An erroneous doctrine countenanced by such a man must necessarily produce evil consequences, his opinion being justly entitled to the serious consideration of every medical man, and decidedly influencing many young practitioners who look up to him as a teacher. He states that his practice in simple fever is almost always successful, and that it entirely consists of a purgative at first, then a combination of calomel and opium with occasionally tepid ablutions. No one will, I believe, dispute, that this plan may be successful in slight and favourable cases, but in the management of dangerous fevers few experienced physicians will agree that they find it such plain sailing, as from such a statement might be supposed. Are they not often obliged to vary their course not only in different subjects, but even in the same case, according to the stage of the disease, the organs affected, the patient's constitution, and other considerations? In confirmation of this, I might refer to a lecture of Dr. Elliotson himself, more lately published, in which he declares that he found it necessary to order wine for patients then labouring under the first stage of fever. We may then safely conclude, that no plan of treatment is applicable to every case, notwithstanding the theories with which the history of medicine abounds. In making this assertion, we do not disparage the great merit of some of the authors of these, for instance of John Brown, whose talents must be admired, or

of the modern Broussais, whose important services to medicine entitle him to the highest praise. From the foregoing observations, it is almost unnecessary to remark, that our treatment of fever in this hospital is not conducted on one invariable rule. In a great proportion of cases, emetics, bleeding, purgatives, diaphoretics, and stimulants, are used in the order now stated; but, in some cases, to adjust these remedies to the disease, and to balance contrary indications, is no easy task. As success is, generally speaking, a criterion of good management, I do not hesitate to challenge a comparison of our hospital practice with that of any other Institution whatever. The proportion of recoveries to deaths would be infinitely greater, were we to exclude from the latter those which occur during the first two or three days after admission. This allowance might fairly be made, as it is obvious to medical men, that in general no human aid could, in fevers, have warded off the fatal blow two or three days only before death. For my part, without descending to an idle boast, I confidently refer to my hospital journal, (and I make no doubt my colleagues can do the same,) to prove, that in cases of simple fever, not one in fifty cases proves fatal, of such as come under my care before the fifth day. The great majority of those who die in this hospital, are such as are admitted in the last week of fever, or who labour under chronic disease of the heart, lungs, or bowels, the *sequelæ* of former attacks."

IV.

DR. H. M'CORMAC ON CHOLERA.

THE public in this country was a good deal surprised at the comparatively small mortality of the epidemic in Belfast. The pamphlet published by Dr. M'Cormac, who treated 934 cases, will shew the methodus medendi pursued in the above-mentioned town.

"It is of the utmost importance to arrest the purging and vomiting with the least delay; for the fluid discharges are the serum of the blood, and cause weakness and death, as if the blood itself were drawn away. I have often seen a patient pass, in a very short time, a gallon or more of this fluid, which, not long before, was circulating as part of the living blood. This discharge will not cease of itself; it continues till it brings the patient to the verge of death. It is almost the same as if so much blood streamed from open wounds. I never knew a case in which an individual attacked with Cholera Morbus, grew spontaneously well—the diarrhœa always appears to go on to the production of collapse and death, unless medical aid be interposed. The reader will then see the necessity of losing no time, and he will not, therefore, wonder when I tell him, that I do not wait till the discharges and the cramps have made the patient cold and blue, but commence without the loss of a moment, to give the most powerful medicines. These medicines, powerful as they are, cannot be productive of the least injury; but neglected or inefficiently treated Cholera, surely leads to death. The following is the mode of treatment which I follow, specifically laid down:

If a person between ten and sixty, whether male or female, not much broken down or previously debilitated, be seized with the disease, whether with purging and vomiting, or purging, vomiting, and cramps. I immediately take away from the arm, if the pulse be not weak and thready, from ten to thirty ounces of blood, the quantity being regulated by the strength of the individual and the effects produced. To a man or strong woman, I give, while the arm is tying up, a scruple of calomel, with two grains of opium, both in powder, and washed down with a mixture of some diluted ardent spirits, as gin, whiskey, or brandy, united with from forty to sixty drops of laudanum. To an ordinary woman or weak man, I administer half this dose; to a child the quarter, and to an infant the eighth part. If the medicine be thrown off, in whole or in part, the whole or a part of the same dose, as it may appear, must be immediately repeated. In two or four hours, or every four hours, the medicine

must be repeated, if the symptoms are not subdued. In this case, general directions alone can be given: the whole dose may be given again, the half only, or the fourth part, according to the urgency of the disease; in general, however, I find five grains of calomel, and one grain of opium, sufficient. In this, as in many other particulars, the practitioner must use his own discretion. If the complaint be early treated, it will generally be checked after the first or second dose—very frequently a single dose extinguishes it at once. Time after time, patients have been brought in with almost incessant purging, vomiting, and cramps; yet hardly have they been bled and swallowed their medicine, when all these symptoms have vanished, sleep came on, and the patients have awakened after some hours, weak but well. In most instances, however, the medicines require to be repeated. Sometimes the symptoms will continue in a much diminished form; at others, the disease will make efforts to re-appear, after the stimulus has been exhausted. In both cases, the repetition of the medicine will produce the desired results.

In some very weak, aged, or broken down persons, the system has rallied for a moment, and then sunk; in this last case, medicine ceases to be of use—nature is exhausted—the leverage of life is broken. We must never, however, presume this to be the case, beforehand, but continue our efforts, till death itself bid us cease. Some constitutions appear so irritable, that the vomiting will continue for days with intermissions, causing much annoyance to the poor patient. In these cases, I find mustard sinapisms or blisters, applied to the stomach, and occasionally warm-baths, opium in some form, and a little wine negus at intervals, with some soup or tea, having bread sopped in it, sufficient for its suppression. Some patients complain much of a difficulty in making water. These will require, in many cases, the use of the catheter, abdominal frictions, stupes and warm-baths; mild opiates will generally be necessary in addition. With these remedies, this troublesome affection commonly ceases in a few days. Sometimes the mercury will affect the mouth. In this case, port-wine gargles, the warm-bath, careful nourishment, and opiates, will soon cause this symptom to disappear. Every patient has invariably recovered, whose mouth has been affected; and although I never try to produce this result of mercury, as some practitioners recommend, I do not find the recovery in the least retarded by it. Such a trifling and occasional inconvenience in the employment of so admirable a remedy, when the result is the salvation of human life, and a complete victory over a formidable and malignant disease, is not to be regarded for a moment. The patients will sometimes be troubled with griping pains in the stomach and intestines, during their convalescence; but wine and opium, and now and then a warm-bath, quickly disperse them. If the bowels should prove costive, from ten to thirty grains of the compound powder of jalap may be given, or from half an ounce to an ounce of castor oil, with an ounce of peppermint-water and twenty drops of laudanum. Sometimes I make the attendants administer a simple enema or injection of gruel with or without castor oil; for I have more than once seen the use of purgatives bring back the serous purging of the complaint, to the great danger and prejudice of the patient. Indeed, during the prevalence of Cholera, purgatives should be very carefully dealt with, when it is necessary to use them. They are almost always improper, when purging actually exists—as for common salts and other saline purgatives, they should not be touched. In two fatal cases, which occurred in private practice, castor oil in the one case, and castor oil and salts in the other, were most improperly taken by the patients, when they felt the disease coming on them. And I may here be permitted to remark, that very many lives indeed, might be saved, by people calling in instant advice, when affected with unusual purging, whether during the night or day. I shall now, before I detail the diet during convalescence, and the general precautions proper to be put in practice by the community during the prevalence of Cholera, as well as the steps to be taken by those who

are remote from medical aid, proceed to state what I have to say relative to the treatment of collapse.

I never found it of any use to bleed the patients in collapse, even so far as it is practicable to do so. The patient in most instances is cold, and requires to be heated with the warm-air bath, a simple contrivance, consisting of a few half hoops, the end ones of iron, stayed together by longitudinal braces. A solid piece of wood is adapted to one end, pierced with a hole, through which a curved tin tube, four inches in diameter, proceeds, and which serves to transmit the heated current of air, impelled upwards by the flame of some spirits of wine, held in a tin cup, supported by a rod on which it slides. By the use of this apparatus, the patient may be well heated in from ten to twenty minutes. The same object, however, is readily effected by bladders or bottles filled with warm water—pillow-cases, containing each a few pounds of hot salt—or hot bricks wrapped up in flannel or other cloths. The heat of the bottles may be tempered in the same manner. As soon as the process for heating is put in operation, the patient must receive a scruple of calomel, two grains of opium, and a drachm of laudanum, mixed with spirits and hot water; an injection, composed of half a pint of starch or gruel at blood-heat, and containing a drachm of laudanum, is to be given at the same time."

V.

INFLUENZA EPIDEMICA.

THE history of epidemics presents a curious phenomenon, which has seldom been wanting and still seldomer reversed—namely, their course from east to west. Sometimes this course is slow, as in plague, cholera, &c.; at others, it is very rapid, as in influenza. The following brief delineation of the march of a recent influenza, must tend to convince us, that there is something analogous in all epidemics—some one common agent or cause, which gives rise to the westward course of them all.

"The INFLUENZA, from which we are at present suffering in this country, (America) prevailed in China during January, 1830, and in Manilla in Sept. of the same year. It preceded the cholera both in Russia and Poland, but we do not know the exact period at which it appeared in those countries; it prevailed in France during May and June last, in England during June and July, and about November began to prevail in this country. Mr. Lawson, surgeon of H. C. ship Inglis, states that in China the symptoms of the disease were, 'pain in the head, more especially over the frontal sinus, cough, discharge from the nose, sense of rawness in the throat and chest, rather than severe pain, great prostration of strength; in some of the cases there was pain in the epigastrium as well as across the loins; with severe aching pains in the limbs, pulse frequent, but generally soft. The febrile symptoms, in most cases, had entirely subsided on the third or fourth day, and the cough, in the majority of instances, in about the space of a week from the commencement. There were, however, some exceptions, where a troublesome cough remained for two or three weeks.'*

Mr. George Bennet gives the following description of the disease as it occurred at Manilla. The commencement of an attack from this disease was with a general lassitude, followed by pains referable to the lumbar region, and in some cases with muscular pains over the whole body; an increased secretion of mucus in the nose, as also in the fauces and bronchiæ; intense headach, principally referable to the frontal sinuses; tongue white; eyes suffused with tears; skin hot; much thirst; a rawness of the throat; cough, particularly troublesome at night; in some cases a restriction across the chest was much felt; appetite impaired; bowels generally costive; quick pulse; and in those of very plethoric constitutions, (in whom the attacks are severer,) a very

* Medical Gazette, Vol. VIII. p. 525.

thick full pulse; flushed countenance. The symptoms varied in intensity in different persons; some having the fever and concomitants so high, with a flushed countenance, and a pulse so full, strong, and quick, as to have almost induced me to resort to venesection; other cases again assumed a very mild character, but in a very slight degree incapacitating the patient from pursuing his occupations. The patients were worse during the night than during the day, the accession of the fever and cough being much greater at that period. After the patients had in some degree recovered, a troublesome cough, attended in most cases with much expectoration, remained, and in delicate constitutions may be apt to lay the foundation of pulmonary disease.

In Paris the disease is described as commencing with coryza, head-ach, lachrymation and sneezing; dryness, pain and tickling of the throat; difficulty of swallowing and cough, sometimes dry and at others accompanied with expectoration of clear, or thick mucus. To this first series of symptoms a more or less marked derangement of the stomach and bowels was added. There was loss of appetite, and sometimes nausea and vomiting, but when vomiting occurred it was generally after violent fits of coughing. There was also lassitude and feeling of soreness in the limbs and more or less depression of spirits. There was often no fever; when it did exist, it was commonly continued, moderately intense, and terminated with abundant sweats. In some plethoric persons the cerebral symptoms and those of pulmonary congestion were very intense. In one case delirium continued for four days, and in another the head-ach was extremely violent, and yielded only to the repeated application of ice. In a few cases there were abundant and obstinate hæmoptysis. Previously to the appearance of this epidemic in Paris catarrhs had become frequent; as the hot weather came on, the catarrhal state of the respiratory apparatus almost entirely disappeared, but vomiting and diarrhœa, which had been observed in a few of the patients who were affected with the influenza, became more frequent and violent; in many persons there was no vomiting, but only dysenteric symptoms, in others a simple bilious flux. Finally, during the month of August, spasms of the limbs and body were joined in some patients to the symptoms just described, constituting sporadic cholera.*

In England the epidemic is stated to have commenced like a common cold, but the constitutional disturbance was much more considerable than the catarrhal sypmtoms seemed to account for. 'Running at the nose and eyes,' says the Editor of the London Medical Gazette, 'with racking pain over the brows, are the most frequent local affections; which, however, are often accompanied or succeeded by cough, and sometimes by nausea and an irritable state of the bowels. The feelings of languor, oppression, and discomfort, are always considerable, and sometimes very distressing; being occasionally attended with anxiety at the chest and tendency to faint. Some have severe muscular pains, of a rheumatic character, with tenderness of the integuments. The attacks generally last from two days to a week, passing off with perspiration, and, in the worst cases, leaving the patients considerably reduced.'† Dr. Burne says that the head is heavy and painful, and is jarred distressingly by the paroxysms of coughing, which gives the sensations as if the head was splitting.

In this city the disease has usually come on with catarrhal symptoms, generally attended with intense head-ach and gastric derangement. Delirium has been by no means an uncommon attendant on the disease, and in some cases the prominent affection has been that of the head, and even occasionally it has been a fatal one. Great depression of spirits has been occasionally present. When the catarrhal symptoms have predominated, there has often been much pain in the side, with rheumatism of the intercostal muscles and sometimes of the loins and limbs. The cough has been

* Gazette Medicale, June 25th, 1831, and Sept. 10th, 1831.

† Medical Gazette, July, 1831.

usually dry at the commencement, and sometimes occurring in paroxysms; the efforts to cough cause great racking of the brain.

We have seen the disease commence with vomiting and purging, like cholera, followed by a catarrhal affection of the respiratory mucous membrane, and rheumatic pains in the chest and limbs. The tongue has been in almost all cases exceedingly loaded, but there has been little or no tenderness of the abdomen on pressure.

In the treatment, venesection has been nearly always demanded, and sometimes it has been necessary to repeat it two or three times. After general bleeding, local depletion by cups along the dorsal and lumbar vertebræ, has been exceedingly useful in relieving oppression of the chest, when it was present, or the rheumatic affection of the limbs. Cups to the back of the neck and to the head, relieved the cerebral symptoms. Gum water, rice water, lemonade, and the like, for sole diet, and mild laxatives have, for the most part, completed the cure.

Treated upon these general principles, patients have nearly always speedily convalesced, and their recovery has been complete. Where, on the contrary, active depletion has been neglected at the commencement, the case has frequently terminated fatally; or engorgements of some of the viscera, particularly of the lungs, have taken place, and the foundation has been laid for incurable pulmonary disease. Our space does not permit us to enter into any further details respecting this complaint at present, but we shall probably hereafter recur to it."*

VI.

CLINICAL OBSERVATIONS ON THE EXHIBITION OF OPIUM IN LARGE DOSES, IN CERTAIN CASES OF DISEASE. By Dr. W. STOKES, Physician to the Meath Hospital, Dublin.

* Philadelphia Journal of Medical Sciences, No. XVIII.

IN the second number of our Dublin contemporary there is a paper by Dr. Stokes, on the effects of opium in inflammatory diseases, which deserves notice. Various practitioners in hot climates have demonstrated the utility of opium in conjunction with other remedies, in subduing inflammatory affections, as dysentery, hepatitis, and fever; while Hamilton, Armstrong, and many others have done the same in this country. Dr. Armstrong, indeed, and the late Mr. Hayden, proposed opium *alone*, in abdominal phlegmasiæ—and Dr. Stokes appears to follow in the same track.

"The first form of disease in which the use of opium appears peculiarly advantageous, may be stated to be that of *Peritonitis occurring under circumstances where bloodletting cannot be employed.* Now, the following are the circumstances under which I have seen this condition of parts to arise:—

1st.—Peritonitis arising from the escape of fæcal matters into the peritoneal cavity, through a perforating ulcer of the intestine.

2nd.—Peritonitis arising from the bursting of an abscess into the serous cavity.

3rd.—Peritonitis occurring after the operation of paracentesis in debilitated subjects.

In addition to these cases which I have myself witnessed, we may add, that low typhoid peritonitis, occurring after delivery, as described by Drs. Cusack and Gooch; and the peritonitis which results from rupture of the intestine, induced by external violence."

There can scarcely be a more appaling accident than perforation of the intestine and escape of its contents, among the bowels, with the rapid and dreadful peritonitis that ensues. As this accident generally supervenes on a wasting disease, as intestinal or typhoid fever, there is nothing to be gained by bleeding, as the disease runs a rapid course, and prostration of strength exists from the very beginning. We have then, two indications (according to our author) to pursue—first, to support the strength of the patient;—secondly, to prevent the further effusion into the peritoneal

cavity, so that nature may have time and opportunity to surround what has already been extravasated, by boundaries of coagulable lymph. Opium, in large doses, is the remedy on which our author depends. Two cases are condensed from the fifth volume of the Dublin Hospital Reports, in one of which great relief was obtained, but the advantage was lost by exhibiting an aperient too soon, when all the bad symptoms recurred, and the patient died. The next case was more successful, and our readers will find it quoted in No. XXVIII. of this Journal, page 541. There can be little doubt that, in the case alluded to, there was perforation of the intestine, with consequent extravasation of its contents. The power of bearing opium (which in this case was given to a great extent) without injury to the nervous system, is very remarkable, and is only explicable by the *pain*, on which the anodyne effects of the opium appear to be expended.

Since the occurrence of these cases, our author has used the same remedy in examples of ordinary peritonitis, where bleeding was inadmisible; and he assures us that he has had no reason to change his high opinion of its powers. In one case where death took place, the opium was borne without the slightest inconvenience. In two cases lately occurring in the hospital, the same treatment has been pursued with the most striking benefit. A case is quoted from the Dublin Hospital Reports, of hepatic abscess, in which the practice here recommended was first tried.

"I have now detailed cases illustrative of the utility of opium in large doses in peritonitis, arising from the introduction of fæcal and of purulent matter into the serous cavity. I would further propose it as a remedy in cases of rupture of the bladder and uterus, and in peritonitis after the operation for strangulated hernia. I am at present trying its powers in a case of recent pneumothorax from pulmonary fistula. In two cases of peritonitis after tapping, where the patients were in a low state previous to the operation, the exhibition of these large doses of opium, without drawing any blood generally or locally, has succeeded in my hands in removing the disease and saving the life of the patient. This appears to be a peculiarly appropriate case for the opium treatment. The patients are generally cachectic, either from original constitution or the disease. They almost all labour under visceral disease and obstruction, and a state of collapse commonly follows the operation. All these circumstances go strongly against our use of the usual antiphlogistic treatment; it was in a case of this kind which occurred in the old Meath Hospital, in the year 1822, that Dr. Graves first ascertained the great importance of opium in this disease. A woman had laboured under ascites, for which she was tapped; the operation was followed by the symptoms of peritonitis. When Dr. Graves saw her, she appeared in the last stage of the disease, she had constant vomiting, hippocratic countenance, cold extremities, the belly exquisitely tender, and the pulse 160 in the minute, and nearly imperceptible. The case appearing hopeless, Dr. Graves determined on merely endeavouring to allay the distressing symptom of vomiting, and administered a drachm of laudanum. The patient soon after fell asleep, and awoke refreshed, with a more warm surface and fuller pulse; the vomiting had ceased. The same remedy was used in smaller doses every fourth hour, and in the course of two days all the unpleasant symptoms had disappeared.

I now proceed to submit some cases of diseases of mucous membranes, where the use of opium has proved efficacious. From having witnessed its utility in cases of inflammatory states of serous membranes, where the inflammation might be termed, for want of a better name, *asthenic;* it appeared probable, that the same condition of mucons membranes might be benefitted by it.

It is now some months since I was called to see a gentleman labouring under all the symptoms of gastro-enteritis, in a severe form. He had considerable fever; thirst urgent; constant smaking of the lips; respiration hurried, *without disease of the respi-*

ratory system; a red tongue and a great tenderness of the belly. The usual treatment was pursued, but the disease showed great obstinacy, and after six weeks' continuance the situation of the patient appeared hopeless. At this time a violent bronchitis supervened, and so great were the sufferings of the patient from the accumulation of mucus in the trachea, that on three occasions I left him, never expecting to see him again. It was remarkable, that during this attack, the symptoms of abdominal disease greatly subsided. Under a stimulating treatment he recovered from the bronchitis, only to relapse into his former state. The abdominal symptoms now became still more urgent; the belly swelled from tympanitis; the verge of the anus became surrounded by large and irritable hæmorrhoids; there was extraordinary prostration and constant low delirium. Under these circumstances, a diarrhœa supervened, at first slight, but afterwards so severe as to threaten every day death from exhaustion. A great variety of means were tried, but without avail. At this time, when the patient seemed in articulo mortis, I ordered him a grain of opium every hour; this he took regularly for the first 12 hours, *without any inconvenience*, and he experienced some refreshing sleep. Next day the remedy was continued in the same dose every second hour, and from this time his improvement was rapid; and I rejoice to say, that he is now in the enjoyment of good health."

This was a fair case, Dr. S. observes, for the employment of this *heroic* remedy, since all other means had failed. The next case is one to which he confesses he cannot but look back on with pleasure, was that of a patient who was admitted in February, into the Meath Hospital, complaining of sore throat and shooting pain through both ears. His countenance was haggard—voice raucous—body emaciated.

"An extensive and unhealthy-looking ulcer, covered with a whitish matter, was found to occupy the left tonsil, the back of the pharynx, and left side of the uvula. The patient denied having had venereal, but circumstances led us to suspect this; he had, however, been frequently salivated in India, for abdominal disease and fevers. He first felt the soreness of his throat six weeks before admission, which was the time when his vessel made the British Channel. We ordered the patient the sarsaparilla decoction with nitro-muriatic acid, and touched the sore with a strong solution of nitrate of silver, which caustic was changed in some days for the butter of antimony. No good effect was produced by these means; the sore extended quite round the uvula, which it rapidly destroyed. The breath became fætid; the cough laryngeal; the patient's appearance was still worse than on admission; his nights were sleepless, and he complained much of pain in the head.

I now changed the plan of treatment, omitted the sarsaparilla and the lotion, and ordered a gargle of chloride of lime with the internal use of six grains of opium daily, and an increase of his wine. At once the sore began to assume a more healthy appearance; the fætor of breath diminished greatly, and in a few days wholly disappeared. After a short time, in consequence of want of sleep, we increased the dose to eight grains, on which he has been kept since the 20th of February. The sore is now healed, and the whole state of the patient singularly improved."

At the time of writing, there was in the Meath Hospital, a woman who, for an enteritis, had taken 18 grains of opium in 48 hours. Previous to the exhibition of opium there had been retention of urine, which gave way under the administration of the remedy.

"Hitherto I have alluded to the employment either of simple opium, or its tinctures. In Dr. Bardsley's interesting collection of Medical Observations, several cases are detailed, where in affections of the stomach, the acetate of morphia was employed with benefit. I am persuaded, that it is a remedy of great power, particularly in chronic cases of dyspepsia, where there is much acidity. I was consulted some months back by a gentleman who has led a very dissipated life, and who for the

last ten years has been a martyr to the worst symptoms of dyspepsia. About two years ago, he had a violent attack of hæmatemesis, and latterly the stomach had become so irritable, that it was scarcely possible to find any article of diet to agree with him. His sufferings were dreadful. After trying other means ineffectually, I ordered the $\frac{1}{8}$ of a grain of the acetate twice a day. He took the remedy three times in the day, with the most perfect relief. The secretion of acid which had been enormous, was suddenly checked, and the patient in two days declared that he had felt better than he had done at any time for the last ten years. His appetite was good, and he foolishly indulged in articles of diet from which he had long abstained. On the fourth day, while in the highest spirits, he became pale; fell, and threw up several pounds of blood. The remedy was of course omitted. In about a fortnight, all the former unpleasant symptoms returned, and his indigestion was as complete as ever. I now ventured on exhibiting the morphia again, but in the doses of the 1-16th of a grain, twice in the day. This diminished dose again produced the same improvement, but in a few days was followed by a return of the hæmatemesis.

The next case is one of a gentleman who has been for a length of time in the East Indies, and who has become a victim to hepatic disease. He is subject to attacks of pain in the epigastrium, followed by jaundice and fever. These have been treated by leeching, purgatives, and the use of mercury; but during the last attack, his debility was so great, that I did not wish to venture on this treatment. The acetate of morphia was given twice a day. It was commenced on the 26th of December, and continued till the 18th of February. The greatest improvement has been made in this gentleman's state. The pain has disappeared; there is now no tenderness; the jaundice has subsided, and what is most remarkable, his bowels now act regularly without the assistance of medicine. He has gained flesh, and his whole appearance is singularly improved."

We have now only to append the conclusions to which our author has come relative to the exhibition of opium.

"1st.—That in certain cases of inflammation of serous and mucous membranes, where depletion by blood-letting, or other antiphlogistic measures are inadmissible, and the system in a state of collapse, the exhibition of opium has a powerful effect in controlling the disease.

2d.—That under these circumstances the remedy may be given in very large doses, with great benefit and safety.

3rd.—That its effect then is to raise the powers of life, and remove the local disease.

4th.—That the poisonous effects of opium are rarely observed in these cases; the collapse and debility of the patient appearing to cause a tolerance of the remedy.

5th.—The cases in which the utility of this practice has been ascertained, are as follow:—

Simple peritonitis, in a stage where bleeding cannot be performed. Low puerperal peritonitis. Peritonitis from perforation of the intestine; from the opening of an abscess into the sac; or lastly, after the operation of paracentesis in debilitated subjects. Violent diarrhœa, supervening in an exhausted subject. Phagedenic ulceration of the throat, in a similar individual. And cases of chronic gastritis, and gastro-duodenitis in patients exhausted by the long continuance of the disease.

6th.—The cases in which this mode of treatment would be probably useful are,—peritonitis from rupture of the bladder, or uterus, traumatic rupture of the intestine, or after the operation for strangulated hernia.

The last observation which I shall make here is, that in most of these cases, particularly in those of diseases of serous membranes, wine was given in conjunction with the opium, and in all, the patients were supported by a lightly nutritious diet."

This paper is certainly interesting, and the subject important. On this account we have laid a full account of it before our readers.

VII.

ST. THOMAS'S HOSPITAL.

CASE OF SPURIOUS HYDROCEPHALUS, CONNECTED WITH PSOAS ABSCESS.

THE patient (Mary Tyson,) æt. 8, from Richmond, having a fair skin, and light red hair, and very much of a scrofulous appearance, was admitted under Mr. Green into Queen's Ward, Nov. 11th, 1830.

It is difficult to obtain any satisfactory history of this case, even from the friends of the child, who seem to have some motives for secrecy, arising from their doubts as to the propriety of her being taken into the hospital, and the poor girl herself is so peevish and fretful, that it is not easy to induce her to answer at all, and when she does make a reply, scarcely any information is communicated.

In the right groin there is a hollow ulcer, of a florid colour, smooth and glistening (no granulations projecting from its surface), about two inches in length in the oblique direction of Poupart's ligament, narrow in the centre, and decreasing in width towards each extremity; and from it there issues an extremely profuse discharge of healthy pus, in the collection of which the bottom of the sore is bathed. On the right side of the spine, in the lumbar region, a round and deep ulcer exists, also discharging most copiously. This, as well as the former, is said to have followed an abscess which broke spontaneously in that situation, but it looks exactly like the effects of moxa, or caustic potass. The surface is smooth, and the edges quite defined, the granules being minute and florid. We learn from the friends, that the child ailed not three weeks ago, and that, on the ensuing Sunday, she walked the distance of twelve miles. Disease of the spine is not discernible, and they affirm that no application of a caustic nature has been made to the back. The quantity of pus from both sores must be supplied from a deeper source, and this is believed to be an abscess in the psoas muscle. The patient lies on her left side, with the right lower extremity crossed over the other. That on the affected side thus appears shortened, and the trochanter major being much more prominent than ordinary, dislocation of the head of the femur upon the dorsum ilii is simulated. Pulse is quick, at 100—skin hot—face a little flushed.

Poultices applied to the ulcers.

Nov. 16th. The little patient is improved in general health, sleeps well, and is free from pain. Pulse 96; skin moist; bowels regular, without medicine. When the poultices are removed from the sore on the back, pus streams from it, evidently having a deep origin, and it seems probable that it communicates with that in the groin, which latter yields an equally copious discharge.

Ordered porter, a pint daily.

26th. Child appears still better. A very abundant flow of pus continues from both ulcers.

Dec. 2d. It was yesterday observed that all discharge had ceased from the groin and dorsal region, and that the ulcers had a dry surface and rather prominent granulations. About two o'clock this morning the patient was attacked with violent convulsions, which lasted till five, and have left her perfectly insensible. There is now evidence of serious mischief within the head—the eyes are rolling and displaying a vacant stare, the pupils being dilated to their utmost—pulse 120—skin hot and dry. She does not moan, nor refer to her head as the seat of pain. Has had an enema, which brought away a natural stool. Was seen by Dr. Elliotson about 12 o'clock, noon; he ordered the scalp to be shaved, and a large blister to be applied upon it: also

Hydr. c Cretâ, gr. v. *3tiâ q. h.*

3d. After the third dose of the medicine, and about 11 o'clock last night, the little patient's senses returned in some measure, and she has been since that time sensible. Has some pain of head—the eyes retain their vacant stare, and the pupils continue dilated, but less than yesterday—pulse 120, more feeble, regular—skin cool. The blister

was placed over nearly the whole of the vertex, and rose well—stools fetid, and of a greenish colour.

Vespere. Is more rational and the countenance is restored to a more natural expression.

4th. About nine last night, the convulsions returned with great violence, and lasted two hours. She, at the end of that time, awoke from them, perfectly sensible, having injured her tongue with her teeth; the convulsive fit is now present, but her motions are not violent. She is moving her head about on the pillow, and tosses her arms in every direction, occasionally, moaning—the eyes are turned upwards, and staring—pupils dilated—pulse 100, and small—no heat upon the head, or rest of the body. Her tongue is severely injured by gnashing of the teeth, and would be more so, if it were not protected by the interposition of the handle of a spoon between the jaws. Sore in the groin has contracted, and is quite devoid of secretion; that situated upon the back has also diminished most rapidly, and affords no pus, both being quite dry.

Blister upon the head to be repeated. Pergat c. medic.

5th. Is now quiet, but has been convulsed in the night. Her countenance is not distorted, and the eyes are fixed in a natural manner. The surface of the body is cool, and the extremities are still lower in temperature. Pulse quick, and more feeble. Bowels are open, and the motions not unhealthy. Mercury is intermitted, by Dr. Elliotson's direction, no effect being produced on the mouth by this remedy.

6th. Has been restless during the night and greater part of yesterday; and early this morning her powers began to fail, and the skin became colder. She now lies in a state bordering on coma, but is conscious of pain, as she has been endeavouring to tear off the blister from her head, which was reapplied yesterday. Her hands are, therefore, muffled. She has just been removed out of bed, and by this slight passive exertion, her breathing has been hurried, and is performed with much heaving of the chest—skin cold—eyes not turned in an unnatural direction—pupils still dilated, but less than heretofore. Pulse not to be felt at the wrist—bowels open. Dr. Elliotson visited her, and prescribed—

Quinæ sulph. gr. iij. *Inf. rosæ co.* ℥j. *4tis. horis. Nourishment, in the form of arrow-root and milk, beef-tea, &c.*

Dec. 7th. At intervals she is sensible; there is very little, if any, alterarion in her general condition. Bleeding has taken place from the mouth, but not to any amount of importance, and apparently from the fauces, or upper part of the pharynx. Continues quinine, and takes some little nutriment, by dint almost of force.

8th. Has not been convulsed since yesterday. She is sensible, but lying in a dormant state, crying out at times from pain in her head. Pulse 130, very feeble and irregular—tongue blackened, from the hæmorrhage of yesterday. Sordes is collecting about the lips and teeth, it having been once washed off this morning. She has become surprisingly emaciated. *Continue.*

9th. No change has transpired, and she appears in less pain. Constant watchfulness—countenance placid. Very little nourishment is taken.

10th. There is to-day a plentiful discharge of pus, both from the sore in the groin and that on the back, and the patient is astonishingly better. She is perfectly sensible, has very little uneasiness in her head, and her countenance and eyes exhibit quite a different aspect. Pulse stronger, about 110—skin warmer, not dry, bowels open, and the stools have a proper colour.

11th. Patient still better, the discharge continuing freely from each situation.

12th. Has taken food for the firsr time since the attack. She is quiet, and devoid of pain.

14th. Nearly the same as on the 12th. Has an appetite for meat, of which she has partaken.

21st. Very little change is to be observed. She is on meat diet, and sleeps a great deal.

26th. Takes her nourishing remedies, and her strength is increasing.

28th. A small and projecting superficial

abscess has formed, during the last two days, upon the forehead, which, being punctured, nearly half an ounce of ill-conditioned pus escaped. The discharge from the groin and back are undiminished. *Continues quinine.*

1831, Jan. 6th. Patient has recruited in strength very much; takes her allowance of meat, together with a good quantity of nourishment in other forms, and has regained flesh. The abscess on the scalp has healed under poultices. Discharge from the ulcers is quite as abundant as heretofore.

14th. No further change is perceptible.

28th. The discharge from both ulcers continues equally profuse. She, however, consumes plenty of nutriment, and is recovering flesh. Makes no complaint of head, but the pupils are constantly in a state of dilatation.

Feb. 14th. No change has occurred, but the little girl seems more cheerful and stronger.

March 5th. Her appearance is improved, and the appetite good. A discharge of matter, nearly as plentiful as ever, still issues from both places. The sores themselves have very considerably diminished; but sinuses are established down the loins, and from the groin downwards along the thigh. She has not quitted her bed yet, but is perfectly without pain or feverishness, or cerebral disturbance.

20th. The ulcer in the groin has closed, and that in the lumbar region is reduced to the size of a pea. Some small quantity of pus escapes from the latter still, and, when pressure is made above, it comes away in greater plenty. A small sinus apparently exists here, but not below. Patient is mending by slow degrees, and is free from any affection of the head, but the pupils continue dilated.

April 6th. Patient has been gradually gathering strength, and one small sinus above remains, terminating on the back by a minute opening, and the quantity of purulent matter evacuated in the 24 hours is very trifling.

15th. A few days ago, it was tried what power she had over her limbs in walking; but she was barely able to do this, even when the upper parts of the body were supported, by the nurse placing her hands in the axillæ. A thin, watery discharge was observed yesterday from both the former situations, preceded by slight constitutional disturbance, and to-day there is an abundant flow of pus again. The child is considerably weaker than she lately has been, and has lost her appetite in some measure. There are, however, no febrile symptoms now present.

28th. Up to this time, the purulent discharge exists in almost equal excess, but she does not suffer pain from its sources, nor has any recent symptom of cerebral mischief been observed.

May 27th. She left the hospital this day, in much the same condition as by our last few accounts.

Dr. Elliotson is of opinion that true inflammation did here exist within the cranium, but which was not disposed to proceed to any extent, nor in its ordinary course; hence is sanctioned the designation of "*spurious*" hydrocephalus, which we have assigned to the above collection of symptoms. Whether the cessation of purulent discharge at a distance were the exciting cause of the cerebral symptoms, or whether the occurrence of these had influence over the secretion of pus, supposing that they were being developed within the head before they were manifested externally, would supply matter for much consideration, and probably discrepancy in arriving at a conclusion, if we were to attempt to decide. But for our own parts, we may perhaps be allowed to state, that the brain affection appeared to have been coming on anteriorly to the arrest of secretion in the ulcers, and that, consequently, as well as for other reasons, which may probably, admit of different interpretation, and it were therefore, unnecessary to specify, we do regard this latter circumstance but as secondary.

COMPOUND FRACTURE OF OS FEMORIS.

William Harding, æt. 67, employed in looking after horses, was conveyed to this hospital, June 7th, 1831, about ten o'clock, A. M., having received a violent kick

from a horse upon the lower part of his thigh, he being at the distance of a yard from the animal, so that the blow was delivered with the fullest force. Upon examination of the right thigh, an irregular wound was discovered at its outer part, between two and three inches above the inferior surface of the external condyle, and of the same extent in oblique length, from above downwards and inwards. Along with this outward breach of continuity, a fracture of the femur (having the same very great obliquity) was found, which reached downwards even to the upper border of the inner condyle, and the superior broken end of which protruded through the wound almost two inches. This latter was very rough, and several comminuted pieces were detached from it, and lying amongst the soft parts. The patient seemed, at this time, insensible of any shock to the nervous system, and complained only of local suffering. Mr. Travers, the surgeon of the week, was sent for, and arrived a little after 12 o'clock. We were, unfortunately, not present at the moment, and cannot give an account, from our own observation, of the different steps of the proceedings which he instituted. He removed a considerable portion of the projecting bone with the saw, previously to bringing the fractured surfaces into apposition, which it was not possible to accomplish without this measure, and then closed the external wound with strips of adhesive plaister. Some difficulty was experienced in elevating the inferior portion of bone to a level with the superior, in consequence of its being drawn backwards by the heads of the gastrocnemius externus; by flexing the knee, however, at a moderate angle, and raising the head of the tibia, by placing a pad between it and the inclined plane, (formed of two flat pieces of board, joined together at an acute angle, similar to that used by Mr. Tyrrell, but wanting the pegs which produce separate partitions for the two lower extremities,) on which the limb was placed, the two extremities were approximated. Some splints were applied with moderate firmness on the thigh in the usual manner, secured by tapes; and the foot was fastened to the end of the bed.

At two o'clock, when every thing was arranged, the man appeared tranquil, little disposed to irritability, was free from pain, and had a natural pulse of 70.

8, p.m. He has been quiet and easy, but incoherency in his answers is in a slight degree perceptible, his manner being sharp and snappish—makes no complaint of pain in the head, nor in the leg, but has had no sleep—pulse nearly 90, soft and regular.

Tinct. opii, ℥xxx. *Mist. camph.* ℥jss.

June 8th, 1 o'clock, p.m. Mr. Travers visited him at this hour, and learned that, during the night, some little sleep had been obtained; but during the greater part of the morning he had been restless, throwing off the bed-clothes, and not allowing more than a single sheet to cover him, notwithstanding that a strong current of air was directed immediately upon him, in consequence of the windows and the door of the ward being open. There was a remarkable sunken look upon his face, some contortion of the features, he frequently drawing up his lips together in a peculiar way; a gentle groan was occasionally uttered—the tongue and mouth were extremely dry, and the former coated somewhat of a yellow colour—great thirst. A dose (℥j.) of castor oil was given last night, which, failing to act, a second was administered this morning, and a tolerably-copious and healthy stool was passed an hour ago. Was incoherent to a little extent, but not amounting to delirium—no screaming nor loud talking—surface of the lower extremities cold, that of arms and chest felt heated—had had some sensation of chilliness, and complained of head-ach and pain in the seat of fracture, but did not acknowledge any in the back. At first he denied having had head-ach, evidently answering without knowing what he said, and at this time the question was put to him about pain in the course of the spine. His pulse was surprisingly unaffected, beating 100 only, rather strongly and regularly, and allowing of ready compression. Mr. T. had more clothing placed upon him, and

shortly afterwards he seemed disposed to sleep, but his eyes were closed merely for a few minutes, and the restless motions were then resumed. It was now determined to try the effect of taking blood from the arm, the condition of the pulse being carefully watched whilst it was flowing. Before five ounces were drawn, the pulse was accelerated to 112; and when the quantity arrived at eight, there was a manifest diminution of power. The bleeding was, therefore, stopped, and the patient confessed he felt relieved in his head, and "less faint." The apparatus on the thigh was not interfered with, the position being unchanged.

Mr. T. observes that it was unusual to witness so much irritability of system as in the present case, succeed within the same short period, and with the trivial alteration of pulse, which could not be regarded as varying much from the healthy standard. He prescribed:

Sodæ corbon., Magn. sulph. āā 3j. *Vin. ant. tart,* ℥xv. *Aquæ fonatanæ,* ℥j. *Syrup.* 3j. *M. 6tis horis, c. Succ. limonis,* ℥ss. *sumend.*

Within a couple of hours after the venesection, we beheld him tossing about his arms and the bed-clothes—in fact, there was equal restlessness to the former. He appeared, however, to express himself in less pain, though it was difficult to satisfy ourselves on this point. The mouth was moistened with toast-water, &c.

9th. Last night he was quieter, and has continued so from six o'clock in the evening till now (three, p. m.) His aspect is a little depressed, but the degree of anxiety is not increased, and he is certainly more rational and collected: we cannot, in fine, perceive any tendency to incoherency. The mouth is excessively parched, the tongue more dry, glazed, and striated, covered with a slight quantity of brown fur, and he is continually craving for drink, though not impatient for it. Skin is extremely hot and dry. Pulse, however, not much excited, about 116, moderately full and soft, and possessing some power. He says, on being minutely questioned, that he experiences no pain of head nor back, and the limb is perfectly easy. His bowels acted in a healthy manner about half an hour since. We find that Mr. Travers visited the patient at one o'clock, and examined the wound, after removing the splints and plaster. The sides of it were not clean, and, indeed, there was a disposition in the cellular tissue to slough. The restless movements of the extremities have quite ceased, together with the contortions of the mouth. A pledget of lint was simply introduced into the wound, from which were expressed some pus and sanious matter and which was treated after the manner of a sinus; and the splints were lightly re-applied upon the thigh. The mixture was ordered to be continued, with thirty minims of antimonial wine in lieu of fifteen; and, as sleep had been obtained without opium last night, this was not, of course, to be repeated.

10th, 11, a. m. His night has been quiet, and there has existed a constant inclination to sleep, or rather a heavy state, more correctly to be denominated somnolency. Last evening his pulse was at 90, and of the same character as in the fore part of the day, and his skin cool. There was, in some measure, less dryness of mouth and tongue, but the skin was hot and arid. At present he is sensible of approaching debility, which is indicated in the countenance as well as by the pulse; this is beating 100 in a minute, but not with its former full and free action—the tongue is now moist, covered with a whitish-brown coat, and the skin is temperate and perspirable. He does not acknowledge any pain. Has taken nothing but his medicine and diluents, and seems to be far more confused than yesterday.

At one o'clock he was seen by Mr. Travers, and he then plainly more needed support—the tossing of the bed-clothes was increased, as also restlessness. Mr. T. directed strong beef-tea to be given liberally, and the following draught every six hours:—

R. *Amon. carbon.*, grs. v. *Mist. camph.* ℥j. *Tinct. hyosciami,* ℥xx. *Tinct. opii.* ℥x. *Aq. cinnam.* ʒ iij *M. Empl. lyttæ nuchæ.*

4 *o'clock, p. m.* More disturbed and restless—perpetually throwing off the bedclothes—the eyes, both yesterday and this morning, have exhibited a glistening and watery look, which has recently become more observable—tongue has changed to a dry and brown condition since 10 oclock—pulse quicker, and more feeble—skin colder and dry, below natural temperature. He is tranquil, and apparently devoid of pain.

Failure of power was more and more observable in the symptoms of the evening, which continued otherwise the same. Low muttering delirium came on about eleven o'clock, which was soon followed by embarrassment of breathing. It was with great trouble that his medicines were got down him up to this period, and they did not appear to revive him even for a time. From this depressed condition it was impossible to rouse the vital energies by stimulants, which were therefore not exhibited, and at half-past nine, a. m. of the 11th, he died.

It appears that the poor fellow had not been of intemperate habits, though accustomed to a large consumption of porter.

June 13th. Examination of the body at two o'clock, p. m.

Right leg not œdematous, but the superficial veins below the fracture were very conspicuous even to the toes. The wound was excessively offensive, and somewhat sloughy. Upon enlarging it, the fractured ends of bone were fully exposed, and the following was the state of parts offered to view. The upper end, which was rendered smooth by the saw, was thrown below and to the outer side of the lower portion, closely pressing against the synovial membrane of the knee-joint, which was not however perforated. The inferior extremity was situated behind it. Several loose spicula were found between the two; one large and flat piece was particularly deserving of notice, two inches in length, and detached from the internal and posterior surface of the upper part of the femur. A second fragment, similar in size and figure, was likewise separated from the lower end.

In the Head, the vessels of the dura mater and pia mater were distended far beyond their natural degree, but in the substance of the brain itself no increased vascularity was visible. The thoracic and abdominal viscera shewed no traces of organic disease.

DISLOCATION OF THE CLAVICLE.

Thomas Merritt, æt. 28, a remarkably muscular and well made man, was admitted into hospital on the evening of December 27th, 1830, with a dislocation of the external end of the clavicle, occasioned in a druuken scuffle, in which he fell with great force backwards upon his right shoulder. The extremity of the bone was readily felt displaced on passing the finger along the spine of the scapula towards the acromion. The shoulder was rather inclined inwards, that is to say, more closely approximated to the sternum than the opposite. Considerable power of motion over the extremity was necessarily lost, but the pain derived from the displacement was very trifling. No difficulty was experienced in replacing the bone, the knee of the dresser being fixed between the scapulæ behind, whilst the shoulders were forcibly drawn backwards and from each other. On the next day the patient was free from any febrile or inflammatory symptom, and the apparatus for fractured clavicle invented by Mr. Amesbury, was put on, with pads under the head of each humerus.

December 31st. The scapular end of the clavicle has become again dislocated, but it was returned into its natural situation with facility by the same means as before.

1831. Jan. 13th. Presented well.

DISLOCATION OF HUMERUS INTO AXILLA. FITS SUCCEDING TO THE REDUCTION, DURING WHICH THE CLAVICLE BECAME DISLOCATED.

Joseph Wright, æt. 24, was brought to the hospital about nine o'clock at night, on December 28, 1830, having the right humerus dislocated downwards into the axilla, an injury for which he had been twice

admitted here before. The head of the bone was reduced easily by making extension of the arm downwards with the heel in the axilla. As soon as this was effected, however, very violent fits of epilepsy came on, which required the strength of three men to keep him on the ground. With such a force even he could not be firmly fixed in the same situation, and during his struggles the scapular extremity of the clavicle on that side was dislocated upwards and backwards, most probably from the concussion against the ground. When the convulsions had ceased (in about half an hour), he was removed to a bed in George's ward, and passed a tranquil night. The displaced clavicle was returned with facility, in the same mode as in the foregoing case, on the 29th. He then had some pain of head, and was rather feverish, both from the effects of liquor (he having been intoxicated just before admission) and the injuries he had sustained. This febrile state was speedily relieved by low diet and purgatives, and on the 31st we found him nearly free from complaint, having no pain and only very slight tenderness about the shoulder.

Feb. 6th, 1831. The fits recurred with great violence on the evening of to-day, after the patient had been in bed about two hours, but no mischief to the shoulder ensued.

17th. Presented well.

March 1st. He again dislocated the same shoulder a few nights ago, from a trivial cause, and the bone was replaced by some common person near him at the moment, the patient simply desiring him to extend the arm forcibly from the hand.

LARGE OSTEO-SARCOMATOUS TUMOUR ON THE ARM.

Joseph Hampton, about thirty years of age, of dark complexion, and short in stature, presented himself to Mr. Green in the latter end of July, 1831, having an immense tumour, equal in size to a gallon cask, and somewhat of the same shape, situated on the left upper arm. The magnitude of the enlargement was of course very manifest to the eye at a considerable distance, and he was obliged to support the limb in a sling. The attachments of this body above were almost entirely confined to the humerus, although the shoulder joint was completely overlapped by it. It was evidently a growth from the periosteum of that bone, and considered by Mr. Green to be periosteal osteo-sarcoma. Some strong fibrous (probably tendinous-like) bands of adhesion existed between its upper part and the acromion and clavicle, but these bones had no share in giving origin to the disease. Below, it extended nearly to the elbow joint, within an inch of it, there terminating by a round, and its less extremity. The whole mass was of an irregularly oval figure, disproportionately great in the middle, and larger above than at its lower part. Its principal bulk occupied the anterior and outer sides of the limb, but the opposite surfaces of the os humeri were likewise involved. The preternatural structure was remarkably hard and unyielding—in a few parts only was any impression to be made by the finger—very ponderous, and no doubt solid throughout. He stated that there was constant and pretty severe pain in the whole member, from the incessant dragging consequent upon the weight of the tumour; and the inferior angle of the scapula was drawn outwards from the median line fully an inch, from the same cause. Ease was always afforded when it was supported, but he did not then enjoy perfect immunity from pain. The motions of the shoulder-joint were of necessity exceedingly limitted, and those of the elbow also in an important degree. There was no numbness of the hand, nor œdema. He was able at the table to cut his meat with the hand of the same side, and the fingers could be freely flexed and extended. His health had not suffered, and he seemed in good spirits; but he had not been able to undertake any kind of work, further than that required in his own house and garden. The disease had originated eight years before, and its increase had been rapid, especially during the nine preceding months.

Mr. Green recommended him to get rid of it by parting with his limb. It would

have been necessary to remove the whole scapula along with the humerus, otherwise no flap could have been made of integument not implicated. The patient, however, did not appear at all disposed to take Mr. G.'s advice; and when we called upon him a month afterwards, at his home in Walworth, he was still more adverse to any proposal of the kind.

About six months previously he was seen by Mr. Travers, who declared his opinion as unfavourable to the removal of the disease; but what he judged the affection to be, we cannot positively assert.

In a case of osteo-sarcoma, very similar, but not so bulky, Sir Astley Cooper amputated the whole arm and scapula, with success. The disease was situated on the upper arm, and no other bone except the os humeri was concerned. A cast of the limb after amputation is preserved in the collection of this hospital.

EXOSTOSES OF UNUSUAL MAGNITUDE ORIGINATING IN INFANCY.

The father of the above man (Hampton,) about 60 years old, exhibited some rare specimens of exostosis on the upper extremities. He had one very remarkable enlargement upon the neck of the right humerus, round, and so much like the configuration of the head of the bone, that there was at first supposed to exist an unreduced dislocation of this latter into the axilla. The motions of the joint were, however, nearly as free as natural, and upon further scrutiny, after seeing this mobility, Mr. Green ascertained the real state of the case. Upon the olecranon of the same arm, another considerable one existed, and also a third of large size near the carpal extremity of the left ulna. There were, moreover, two or three of smaller dimensions on other parts of each fore-arm. The largest were equal in size to hens' eggs. They had all originated in his childhood, or rather infancy, according to the man's own statement, and gave rise to no suffering, nor inconvenience. No increase had taken place in them within his recollection. BETA.

GANGRENE OF THE FEET FROM FROST BITE, SUBSEQUENTLY REQUIRING AMPUTATION OF BOTH LEGS.

John Wiggins, æt. 39, was admitted into St. Thomas's Hospital, Dec. 15th, 1829. He has followed various occupations during his life time, but has generally lived poorly: he states that about a month ago (having no home) he had lain in the open air during four successive nights, the weather at the time being intensely cold. On the morning after the fourth night, he found himself unable to stand, in consequence of the loss of sensation in his feet. So complete was the loss of sensation that he was totally unconscious of touching the ground. He was in this state conveyed to Cold Bath Fields Prison, as a vagrant, where his diet for some days was gruel and soup, on alternate days. After arriving at the prison, he describes the sensation of his feet as having changed, and instead of the numbness which had before existed, he had a sensation of pricking or stinging heat. This, according to his account, was soon followed by more manifest signs of inflammation, as redness, throbbing, and swelling of the parts. He does not remember what was done for him, but these symptoms, accompanied with great pain, continued for *eight days*. After this period, the feet were discovered during the night to have become sphacelated; the pain then remitted, the feet became of a black colour, and in different parts slight vesications arose; in a day or two after, a line of separation between the dead and living parts became evident, and with slight variations in his health he passed the remaining time in the prison infirmary, until his admission into St. Thomas's Hospital. His state was then as follows:—the entire sole of each foot, together with all the phalanges of the toes, was in a state of gangrene, being black, dry, and shrivelled; a well-marked line of separation existed between the living and dead parts, and numerous well-formed granulations had arisen on the former; there was profuse fetid discharge, and he complained of great pain. Pulse 90 and feeble, tongue moist, slightly furred,

appetite good, bowels confined, complains of want of sleep. He was ordered:—

Pulv. rhei, grs. xv. *statim. Mist. camph.* ℥iss. *Carb. ammon.* grs. v. *Conf. arom.* ℈j. *Tinct. opii*, ℥x. *6tis. horis. To have sago, with* ℥ij. *of Port wine daily, extra meat, and half a pint of porter. Chloride of lime lotion and a poultice to be applied to the feet.*

Dec. 16th. He is suffering all the evils of repletion, the nurse having allowed him to take all the above prescribed nourishment at one time. He has had headach, a furred tongue, the bowels have not been opened, and his pulse is 100, and full. His meat was ordered to be suspended for the present, and to have ℥iss. of cathartic mixture directly, to be repeated in three hours if necessary.

17th. The bowels were not relieved until he had taken two doses of the medicine. The symptoms of excitement have now in a great measure abated. The pulse is soft, though still frequent. The feet are very painful, but the discharge is less offensive.

19th. He still complains of want of sleep, the pulse is improved in power, and his appetite is good. *The mixture to be discontinued, and ordered to take opii*, gr. j. *ter die.*

22d. He complained much of the pain in his feet. Granulations have arisen in considerable quantity, and the process of separation is proceeding rapidly, the dead portions being apparently only held by the metatarsal bones.

26th. With the exception of pain he is in every respect improved; and as it is pretty clear that the sphacelated portion is only retained by a slight connexion of bone, sufficient, however, to render the separation by the unaided natural powers unnecessarily tedious, it was determined *to remove* the right foot. In doing this it was found that the line of separation had passed through the metatarso-phalangeal articulation of the great and little toes; but it was necessary to divide the three intervening metatarsal bones with the saw, near their phalangeal extremities. With the exception of one or two tendons, which were divided by the knife, the whole sole of the foot was completely separated by absorption—passing in its course directly through the tuberosity of the os calcis—slight hæmorrhage followed the removal, but was immediately restrained by a dossil of lint. A poultice was then applied. He was ordered to take—

Mist. camph. ℥iss. *Ammon. carbon.* grs. viij. *Conf. arom.* ℥ss. *6tis. horis. Opii.* gs. j. *sexta quaque horâ.*

27th. Has passed a good night, and feels less pain—*to continue his medicines and diet.*

28th. The left foot was this day removed in the same manner as the former. It was found necessary to saw through the three inner metatarsal bones, and the tuberosity of the os calcis.

31st. Seems to improve rapidly, both the stumps are covered with healthy granulations, excepting the surface of the left os calcis. *Medicines as before, and calamine cerate to the sores.*

Jan. 4th, 1830. For the last day or two his health has been deranged, and without any apparent cause—his bowels are confined—and on examination of the extremity, a gangrenous spot, the size of a half-crown, was discovered on that of the left side.

Pulv. rhei, c. hydr. grs. xij. *statim.*

5th. The bowels were freely acted on and the slough, which proved to be merely superficial, has separated.

26th. He has continued to improve up to the present date. The ulcers are cicatrizing slowly, from their edges, and the granulations of the left one are healthy on the right side; they are, however, rather flabby. He was ordered—

Quinine sulph. grs. ij. *Extr. gentian*, grs. iij. *ter in die. Opii*, gr. j. *ter die. A pint of porter daily.*

Feb. 8th. The cicatrization of the left ulcer has proceeded rapidly, being almost healed, but on the right stump the process is more tardy,—the portion of os calcis here exposed seems about to exfoliate.

20th. Little alteration has taken place.

The increased portion of bone still remains, accompanied with considerable fetid discharge.

28th. The portion of bone was removed this day.

April 3rd. During the period between the last report and the present date, there has been nothing to notice. The left ulcer has healed, the right sore has occasionally varied in appearance, as his health has been better or worse.

October 1st. An extremely indolent ulcer, to heal which several applications have been tried in vain, exists upon the plantar surface of the remaining portion of the right foot. As this is not likely to cicatrize, and moreover as this stump would be of no service to the patient hereafter, so as to enable him to earn his living by active means, together with the opposite, a wooden leg would be a much more useful substitute, and amputation of the right leg therefore will be proposed. Some superficial ulceration, partaking also of much the same character as on the right, has been established in the extreme part of the opposite, but is now presenting a surface disposed to contract, and the granulations are tolerably distinct.

Dec. 10th. No favourable change having transpired in the condition of the sore upon the right side, this leg was to-day amputated at the usual distance below the knee, by the circular incision. The spine of the tibia was sawed off obliquely downwards from the knee, and then divided in a directly transverse direction together with the fibula, whereby, a piece of bone was removed from the front of the tibia, and the sharp edge here usually projecting, obviated. Three ligatures were applied on the principal arteries of the limb; namely, the anterior and posterior tibial, and the interosseal. The flaps of integument were brought together in the ordinary mode from side to side.

Vespere. Slight twitchings of the stump have been experienced, but with this exception, he has been perfectly void of pain.

11th. Has passed a somewhat disturbed night, but has no febrile excitement. The bowels not being opened, a dose of oleum ricini was administered.

12th. Four stools have been obtained, and there is no bad symptom to be complained of, his rest last night having been good.

13th. There has been a very free discharge from the stump, red, and watery.

14th. Patient easy. No alvine evacuation since 12th. The straps were removed from the lower part of the stump; no matter was confined, and adhesion, as favourable as could be desired, has taken place. Two strips were replaced. *Ol. ricini*, ℥j.

15th. Frequent pains of a spasmodic kind have arisen across the umbilical region, attributed to some improper article of food he has taken, unknown to the sister or nurse. Dressings were taken off above, and the edges of the stump adhere, with very slight gaping. No discharge of pus is at all visible.

16th. Spasms have continued throughout the night, but are now abated in a great degree.

21st. Stump going on well. The edges have not been quite clean, and the lot. chloride calcis, on lint, has been applied to them.

26th. Stump is looking remarkably well, and granulations of a florid colour have appeared.

1831, Jan. 2d. No ligatures have yet separated, but the wound is nearly healed.

4th. One ligature came away.

10th. A second ligature separated. Stump quite healed.

13th. The last ligature was removed.

March 30th. The ulcer upon the left foot, which at the time of amputation was not larger than a sixpence, circular, and surrounded by a hardened margin, has recently spread over the whole plantar aspect of the part, without any obvious cause, either locally, or in the state of constitution. It is to be apprehended this limb will not be preserved. No deviation from the healthy standard has at any period been observable

in the patient's general condition, since particular mention was made on this point.

June 1st. The ulceration on the left sole is at present in a healing condition, but not reduced to the small space it has once occupied. Various applications have been used, according to circumstances, and now it is dressed with dry lint and adhesive plaister. Mr. Green has conferred with him about parting with this leg also, as the stump, if ever cicatrized, will be useless, and ever liable to ulcerate afresh. The poor fellow seems unwilling to submit, being in hopes of obtaining admission into Chelsea Hospital as an in-pensioner, in which capacity no bodily labour would be required of him, and he could pass his time comfortably with only one wooden leg. But if he fail in obtaining this berth, he sees the necessity of then losing his limb, upon which, in its present and probable future condition, he would not be able to work, so as to derive any emolument in addition to his scanty pension.

October 20th. The poor fellow has again been admitted into the hospital, with the full determination to lose his remaining limb. The ulceration of the foot has spread, so as to occupy the entire of the inferior surface, and without evincing any disposition to take on a healing process. Amputation of the leg, below knee, was accordingly performed on the 7th December. Nothing untoward happened; the stump healed well, and he went out Feb. 14th, 1832, being in a much more comfortable condition with his two wooden legs, than whilst retaining his limbs with the indolent and intractable ulcers. DELTA.

VIII.

COUNTERACTION, VIEWED AS A MEANS OF CURE, WITH REMARKS ON THE USES OF THE ISSUE. By JOHN EPPS, M.D. Octavo, pp. 69. 1832.

THE acute observer, who has published this little pamphlet, hopes that he has been able to throw some new light on the subject of counter-irritation, though most of the facts which he has adduced may be well known. The proceedings occasioned by the empiricism of Long and his associates seem to have called our author's attention more especially to the subject, and he has prosecuted it with assiduity. Dr. Epps prefers the term counter-action to that of counter-irritation, because it may be questioned whether irritation is always the result or the concomitant of counter-action, and, allowing that it did always result, the term, he observes, expresses only *one* effect, and not the whole of the effects. He considers the subject under three heads—spontaneous, accidental, and artificial counteraction, to which are added, remarks on individual counter-agents, peculiarity of constitutions, &c.

Under the head of spontaneous counteraction, Dr. Epps adduces the cases of eruptions and discharges behind the ears of children, by which the premonitory symptoms of hydrocephalus are removed—those of dentition relieved by cutaneous eruptions on the body—and those indicating approaching apoplexy by epistaxis, the breaking out of ulcers on the legs, &c. Our author pursues his illustrations through the regions of the head, chest, and abdomen, adducing curious and instructive examples of the sanative efforts of the constitution when threatened with disease.

The second chapter is on accidental counteraction, beneficially induced.

"Captain Ians, of the royal navy, was tapped, and nineteen pints of water were drawn off. The abdomen began again to fill, and several pints of fluid, so far as could be judged, had re-accumulated. The servant one day, in removing the kettle from the fire, accidentally spilled some boiling water on the captain's leg. Inflammation came on. An ulcer was formed. This spread. As it spread—in other words, *as the disease in the leg progressed—the accumulation of water in the abdomen diminished*, and the officer was at length perfectly cured of his dropsical affection. This case occurred in Dr. Hutchinson's and Dr. Houston's practice.

Cases similar to the following are familiar to many practitioners.

A. B., aged nineteen, has been subject to *bad eyes* and a *discharge* from the *ears* ever since she was fourteen. At twenty, A. B. marries; and, becoming pregnant, the eyes and the ears become well. The children are either scrofulous or scorbutic, according as the discharge in the mother partook of the one or other character. The pregnancy here acts as a counteragent; in other words, when impregnation takes place, another action—that of formation—is set up in the system. This new action overcomes that on which the discharge from the eyes and the ears was dependent, consequently the discharge ceases.

A child, who was troubled with severe cough of several months' continuance—whose appetite was sometimes good, sometimes bad; countenance first flushed, then pale; became, either from cold, or from the friction of the tightly-tied bonnet strings, afflicted with a swelling, and finally a suppuration, of the glands of the neck. All the previous symptoms passed away, and continued absent as long as the discharge continued."

The counteraction by means of the external application of heat, chiefly by baths, &c. is illustrated by many instances of its powerful effects, but these need not be repeated. Next, Dr. E. proceeds to counter-irritants, properly so called, in the form of rubefacients, epispastics, escharotics, and purifacients, as setons, issues, &c. The following passage respecting friction is curious.

"It is a lamentable fact, that practitioners are not generally aware of the benefits arising from friction over the bowels in cases of *constipation*. My plan is to order the bowels to be rubbed with *soap lather* every night on going to bed. This rubbing promotes the peristaltic action on which the evacuation of the fæcal matter in a great measure depends. I have seen such benefits arise from the plan, that I have no doubt of its efficacy. Hence Sydenham's recommendation of horse-exercise, the beneficial agency of which is, in a great measure, connected with the gentle muscular action, bringing about a state of the circulating fluid very similar to that brought about by means of friction."

The work, if widely circulated among the non-professional public, would be very useful in checking quackery, by explaining the rationale of external excitation. The author has keenly exposed the charlatanneries of St. John Long; bnt the public cannot exist without delusion. The liberty of throwing away their money and their health on ignorant and unprincipled quacks, is as dear to John Bull as the trial by jury, or the Magna Charta.

IX.

On the Evolution of the Chick, &c.*

While the ovum is yet in the ovarium of the hen, and consists only of the vitellus, or yolk, the rudiment of the embryo may be discovered as a yellow spot, of a lighter colour than the rest of the yolk; if we examine this very carefully, it is found attached to a vesicle, situated under the vitelline membrane, and to which the name of cicatricula has been given. The first six figures in Plate VIII. illustrate this appearance. As the ovum passes along the oviduct, it receives the addition of the albumen, and is subjected to a rotatory movement, arising from the play of the muscular walls of the oviduct, by which it becomes more tapering at its extremities, and in time gives rise to the formation of the two chalazæ, by means of which the ovum is suspended and steadied.

Figure 8 very beautifully displays a vertical section of a mature egg, before incubation. Lining the shell, we observe its investing membrane, which consists of two layers, closely applied to each other every where, except at the base or larger end of the shell, where they are separated, and thus leave a cavity, which is filled with air,

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* From Carus' Work, "Tabulæ Anatom. Comp. illustrantes."

and is termed "folliculus aëris." Within this membrane is the albumen, or white, or glaire, and this encloses the yolk, surrounded with the yolk-bag, or membrana vitelli. Between the albumen and vitellus, are seen the two chalazæ, attached by their one end to the vitellian membrane, while the other floats free in the albumen. Upon the lateral surface of the membrane, we notice the "cicatricula," or what is vulgarly called the "tread of the cock," which, by being situated on the smaller portion of the sphere of the yolk, is always uppermost, in whatever position the egg happens to be placed.

During incubation, the folliculus aëris becomes gradually larger; the albumen is thinner and more turbid, and is partly consumed by the chick for nourishment, and partly escapes through the shell by evaporation; the cicatricula, by enlarging, forms the amnios, which contains the colliquamentum, or fluid in which the embryo is at first immersed: the umbilical vessels are expanded on the amnios, and on a membrane lining the shell, and which is called the chorion. On the second day of incubation, the embryo is first observed as a gelatinous filament. On the third day, the punctum saliens, or heart, is recognized by its motion; and the spine with the rudiments of the brain and eyes, are to be seen. On the 4th, the abdominal viscera and the rudiments of the extremities appear. On the 5th are seen the respiratory organs. On the 6th there is voluntary motion. On the 9th, ossification commences; and, on the 21st, the chick bursts the shell and escapes. In the year 1826, Professor Hüschke, of Dresden, made the singular discovery that, in the early stages of the developement of the chick, there are to be seen three fissures, or slits, on each side of the neck, and that these fissures correspond with three bronchial arches, or true gills, each of which is supplied with a bronchial artery, which arises from the aorta; these appearances may be observed from the 4th to the 7th or 8th day of incubation, at which time the bronchial arches have disappeared, and are superseded by lungs, and the pulmonary vessels take place of the bronchial ones. This metamorphosis of a bronchial into a pulmonary apparatus, is one of the most singular and unlooked-for phenomena of the animal organization, and is, according to Carus, to be regarded as a beautiful exemplification of the law of developement that all the animals of a higher grade attain, step by step, and by passing through certain preliminary conditions of existence, to their complete evolution. According to some German writers, among whom is our author, the same changes may be traced in all the mammalia, as well as in all birds, during the very early stages of fœtal life.

The 9th and last plate gives some very good figures of the process of generation in some of the mammalia:—In them, the mode of evolution is, or at least appears to be, very different from what we have observed in the other classes of vertebral animals, since we no longer find that the young being is furnished with a yolk, or any similar supply of nourishment, Professor Carus, however, considers that the vesicula umbilicalis ought to be viewed as a part analogous to the vitellus, and as connected, somehow or other, with the growth of the embryo while in utero; and we know that, after birth, the food is drawn from the mamma of the mother, in the secretion of milk, which is not unlike to a thin or dilated vitellus. Respiration, we have reason to believe, is effected in the very young embryo by bronchiæ, afterwards by the vascular web of the allantois; and, in a later stage, by the vessels of the chorion, which, when conglomerated into one or several masses, receive the designation of placenta or cotyledons.

Figures 1 and 2 are a beautiful illustration of the appearances of an eight week ovum of the sheep; the amnion, chorion, allantois, vesicula umbilicalis, arachus, &c. are very clearly seen, and also the anastomoses by arches (so as to look not unlike to bronchiæ), of the bloodvessels of a cotyledon.

Figures 3 and 4 exhibit the embryo of a bat; and the 4 following figures represent the young of a marsupial animal (Didelphis Virginiana).

In figure 10, the ovum of a mouse, we see very distinctly that the umbilical cord sends off, in addition to its vein and two arteries, the omphalo-meseraic blood-vessels, which were at first dispersed on the vesicula umbilicalis, or part corresponding (as mentioned above) to the vitellus of oviparous animals, but have been transferred to the inner surface of the chorion, by some denominated, very unnecessarily, the tunica erythroidea: in a like manner, the proper umbilical vessels belonged, at the very early stages, to the allantois, but subsequently to the placenta.

In figure 14, we observe that, in the very young calf, a diverticulum is attached to the intestinal tube, very near to the umbilicus; Professor Carus thinks that this is the remains of the canal which had formerly communicated between the gut and the vesicula umbilicalis, and is analogous to the ductus vitello-intestinalis of birds, &c. by which the yolk is taken into the body of the chick.

SPIRIT OF THE PERIODICALS.

X.

A CASE OF GASTRO-ENTERITIS, SIMULATING CHOLERA. By Dr. BROUSSAIS.

JANUARY, 1832. The patient had been seized suddenly with severe colic, painful vomiting, and profuse purging; aspect cadaverous, face shrunk, eyes red, and mind bewildered; pulse small, and scarcely perceptible; extremities icy-cold; tongue dry, red, and cold; sordes about the teeth; epigastric region tender, when compressed. Although the pulse was so faltering, and the skin so cold, Dr. B. ordered 15 leeches to the epigastrium, and as many to the anus. An opiate starch enema was given to quiet the bowels; lemonade to drink. The diarrhœa was stopped but the vomiting continued for two or three days; the stupor increased, the eyes became more red, and the face more corpse-like. Ten leeches over the jugular vein of each side, and frictions with warm camphorated vinegar on the abdomen. The head was thus relieved, but in two days afterwards the stupor returned, and 20 leeches were now applied to the temples, blisters to the thighs, and the stimulating frictions to the belly.

Six days having now elapsed, without any marked improvement, Dr. B. ordered two more blisters to the thighs. and the embrocations to be continued; and although the pulse was not to be felt, he forbid all stimulants, and even broth. On the 10th day the patient appeared somewhat revived, and he asked with a weak voice for food. A little very thin broth was given. A blister was ordered between the shoulders; the frictions were assiduously kept up, and the only food permitted was lemonade and gum-water. A slight attack of bronchitis came on, and the pulse rose and heat of surface increased; in three days the symptoms abated, and the pulse again fell; the same treatment was continued. On the 15th day after his admission, the symptoms were thus reported;—head is less confused, aspect not so cadaverous, but the coldness of skin and smallness of pulse little improved. Next day, however, the pulse rose, and the patient appeared altogether better. The abdomen was soft, compressible, and not tender; and the tongue was moist, and still rather red. Dr. B. was led to infer that now the spasmodic contractions, induced by the phlegmasia of the small intestines, had ceased, and that therefore the peristaltic movements, hitherto impeded, might permit the digestion of broth; it was accordingly given with excellent effects, and the patient progressively *advanced to recovery.*

Reflections by Dr. B. It appears that gastro-enteretic inflammations have the effect of greatly weakening the action of the heart, and of thus enfeebling the cutaneous circulation, while at the same time the blood is congested in the viscera. In such cases we do not approve of the employment of purgatives, or of any stimulants; and allow only emolient drink at intervals, employ frictions on the surface, and large warm poultices to the belly. If one part of the abdomen appears more congested than another, leeches are to be put on that part, and to be repeated according to circumstances. This plan of treatment must be undeviatingly persevered in, till the spasmodic contraction of the bowels ceases, and the peristaltic movements are re-established, the indications of which are the relaxation and pliancy of the abdominable muscles, which so faithfully correspond to the condition of the intestinal superfices; then, but not till then, are we to give nourishment. In short, our treatment is comprehended in three things; viz. local bleeding, external warmth and frictions of the surface, and lastly, patience.—*Anal. de la Médéc. Physiol.*

Remark. The above case, though not a rare one, merits a careful study, and illustrates well Broussals' opinions.—ED.

XI.

ABSCESS IN THE SUBSTANCE OF THE HEART. Reported by Dr. CASIMIR BROUSSAIS.

A SOLDIER, aged 19, entered the hospital of Gros Caillon, with a variolous eruption upon him—he passed through the several stages, apparently favourably; towards the decline of the disease, diffused abscess formed on the left elbow; the discharge was scanty and of a greenish hue; the fore-arm and hand became prodigiously distended by infiltration, and cold to the touch. At the same time, sloughs formed on different parts of the body, and the patient's strength was quite exhausted;—he died on the 55th day from the attack.

On dissection the heart was found to be larger than usual; but the left side alone was hypertrophied and dilated. At the base of the left ventricle, behind the mitral valve, and in the fleshy substance of the walls, there was an abscess, of the size of a filbert, containing a whitish homogeneous pus; the cyst had no opening, either outwardly or inwardly. The rest of this ventricle was not diseased; but the ventricle towards its apex, and the auricle of the right side, presented two patches where the texture had degenerated into a purplish spongy substance, not unlike to ordinary eructile tissue. No disease was detected in any of the arteries, or veins, nor in the other viscera.

Reflections. The preceding case proves, beyond all cavil, that an abscess may form in the fleshy parietes of the heart, without occasioning any marked distress, or very evident sign, and that its formation must result from a local circumscribed inflammation.

The early morbid anatomists frequently mention suppurations, ulcerations, and gangrene of the heart; but we have reason to doubt their correctness; as no instance of mortification of the heart, is now-a-days heard of. Senac is the first author, who accurately describes the degenerations of the heart's texture. He says that the seat of the abscess is always in the cellular tissue connecting the muscular fibres, which are found generally to be little altered by the suppuration, and that the pus is poured out between their bundles. The base of the heart, he states, is most frequently affected. Neither Morgagni, nor Lieutaud have reported any cases. Laennec describes one case, in which he found an abscess in the substance of the left ventricle, near its base, in the body of a child, who had been affected with perecarditis. From the accounts left to us by Senac, Corvisart, and Laennec, it appears that there are no discriminating, or pathognomic symptoms of this degeneration. In some cases, the patients have died suddenly, at the time when they seemed to be in good health; in others, palpitations, and a feeling of strangling had been observed. Of one thing we are assured, that an

abscess of the heart may form, without any pain or suffering; a very satisfactory proof, that pain is not a necessary symptom of inflammation.

A very interesting and important feature in the present case, is, the occurrence of certain changes, probably antecedent to suppuration, in the textures of the right ventricle and auricle. Dr. Broussais describes these as small circumscribed inflammations, with a sanguineous turgescence, induration, and incorporation of a black-coloured blood with the muscular substance, which appearance was compared by some to an interstitial apoplexy, and by others, to the structure of the corpora cavernosa penis. —*Ibid.*

XII.

Erysipelas, treated by Mercurial Inunction.

Dr. Broussais has repeatedly employed this method, with very satisfactory results. The parts affected are to be gently rubbed with a mixture of equal parts of "onguent Napolitain" and of lard. The cases suited to this practice, are such as supervene to diseases by which the body has been much weakened, and in which the inflammatory action is feeble.—*Ibid.*

XIII.

Dr. Broussais' Opinion on the Use of large Doses of Tartar-Emetic in Pneumonia.

The employment of this agent in acute inflammation of the lungs is most efficacious, when the patients have been weakened beforehand sufficiently by bleedings. We are more and more satisfied that it acts, not as a specific in counteracting inflammatory excitement, but altogether as a revulsive, or, in other words, that the relief to the lungs is always in proportion to the rapidity and to the quantity of discharges produced, whether by vomiting, purging, sweating, or flow of urine. It is quite a mistaken notion, to suppose that the amendment of a patient begins only when the antimonial ceases to have some sensible effect, or, as it is expressed, when a "tolerance" of the drug is induced. When it checks an inflammation, without causing vomiting or purging, we shall find that profuse sweating or diuresis has generally taken place. But should no evacuation at all occur, the antimonial becomes an irritant to the stomach, and gastritis ensues. Dr. B. has seen this repeatedly take place, and, therefore, dissuades its employment, whenever there are any symptoms of tenderness of the stomach, whether this be primary or consecutive. He narrates the following case. A soldier entered the "Hôpital du Val de Grace," having all the symptoms of an acute pneumonia of both lungs, with a hypertrophy of the heart. He was bled largely and repeatedly, but did not experience relief; indeed the symptoms were aggravated, and the antimonial solution was ordered to be taken every hour. It produced copious purging, but the disease advanced rapidly to a fatal termination.

On dissection, the greater part of the lungs was perfectly normal, congestion being visible only in one part. On an examination of the stomach, its mucous coat was found intensely inflamed, and the inflammation was traced to have extended along the whole extent of the duodenum, as far as one-half of the track of the ileum. The inner surface was much softend, and in patches converted into the appearance of a boiled pulp. In short, this patient, says Dr. Broussais, died, not from a pneumonia but from an intense gastro-enteritis.—*Ibid.*

Obs. by Ed. The above report appears to us to be exceedingly imperfect and ill drawn up, and does not do much credit to the enlightened physician, as no accurate diagnosis of the transference of the malady seems to have been made before death.

XIV.

CASE OF DIABETES MELLITUS.

A MAN, aged 24, had for five months been affected with an unquenchable thirst, and a most voracious appetite, and yet had lost considerably both flesh and strength. Skin dry—pulse 60 to 65, very small—profuse diuresis—great wakefulness—no pain any where—respiration and digestion good—bowels regular. The colour of the urine was like that of clarified whey; it had no urinous smell, and was sweet to the taste. The patient had resided long in a damp climate, and had suffered repeatedly from several enfeebling diseases, as fevers, gonorrhœa, &c. He himself dated the commencement of his malady to a debauch in drinking beer, having, in the space of 12 hours, swallowed no less than 16 or 17 pints of it. In the present, as in many other recorded cases of diabetes, there was a marked tendency to blindness from amaurosis, a coincidence, or rather a result or sequence, worthy of the attention of oculists. He was put on an animal diet, and allowed milk and gum-water as a drink; was cupped over the kidneys—had the whole body well rubbed with camphorated spirits, and took one grain of opium at night; occasionally had a vapour-bath, which was subsequently changed to a sulphurated one; wine was sometimes allowed him; two moxas over the kidneys; the quantity of animal food was gradually increased. Under this treatment for three weeks, the quantity of urine was reduced from 15 to 16 pints, down to 6 or 7 pints; and at this period he left the hospital.—*Ann. de la Med. Physiol.*

XV.

ENDERMIC THERAPEUTICS.

THE method followed in France is as follows:—Apply to the skin, which we wish to deprive of its epidermis, a portion of ammoniacal pommade, which is made of equal parts of lard and the strong liquor ammoniæ, and renew the application in five minutes; in five minutes more the blister will have risen, and we then remove the epidermis, and sprinkle the raw surface with the medicament. Half a grain of acetate of morphia, applied on a blistered surface near the origin of the sciatic nerve, has, in 24 hours, cured a severe neuralgia of the limb; and sulphate of quinine has, when similarly used, quickly put a stop to an ague, when the medicine could not be administered inwardly.—*Ibid.*

XVI.

MODE OF DRESSING A STUMP, AFTER AMPUTATION OF THE THIGH.

WHILE the assistant draws down, with both his hands, the skin and muscles over the face of the stump, let the surgeon pass a bandage round the pelvis, and roll it regularly and firmly around the limb from the hip to the wound; apply the two cut surfaces neatly together, and retain them there by cross pieces of bandage, secured by a turn or two of the roller: over these put a piece of simple dressing and a pad of soft lint, which are also kept in their place in the same manner, without the use of any adhesive plaster, which are condemned as highly irritating to the wound.—*Journ. Complement.*

We quite approve of the above method, and have repeatedly observed the pernicious effects of applying adhesive plaister to large wounds. It gives us pleasure at the same time, to find that union by the first intention is now admitted into French surgery.—ED.

XVII.

CASES OF PELLAGRA, OR "MANIA PELLAGRINA" OF ITALY, COLLECTED FROM THE GREAT HOSPITAL AT MILAN.

THIS malady has received various names, such as pellagra (from two Italian words, denoting fissures or chaps of the skin)—dermatagra, or periodical chronic erysipelas—mal de misère—insolation du printemps—scorbut Alpin—paralysie scorbutique—

erythema endemicum, sive pellagrum (Alibert)—maladie symptomatique des lésions du tube digestif (Biett). It is uncertain when the disease was first recognized; mention is made, in the records of the Milan Hospital for the year 1578, of a disease designated "pellarella," but no characters or symptoms are enumerated. Numerous authors maintain that it is of comparatively recent origin, and date its first appearance about the beginning of the last century. Its causes are equally uncertain, being by some attributed to the action of the sun, by others to atmospheric influence, or to the use of unwholesome, saltless food—of unfermented and deteriorated bread; Marzari blames the Indian corn and "nolcus sorghum;" the impure and muddy water which is drunk has been accused of it. When, from the causes, we pass to the characters of the disease, equal discrepancy of description is found; it has been compared to hypochondriasis, impetigo, vitiligo, lepra, elephantiasis, scorbutus, ephelides, mountain scurvy and "mal de la Rosa," and mange. Alibert says it is a species of exanthema, arising, not from ordinary inflammation, but from a virus which is generated; Biett regards it as always symptomatic of disorders in the digestive organs; Dr. Strambio, of Milan, thinks that it originates in an irritation and slow inflammation of the neurilema of the spinal nerves and marrow, which, in course of time, occasions a chronic gastro-enteritis; and Drs. Liberali and Carraro describe two degrees of the disease—the first of which, produced by the use of unwholesome, indigestible food, is designated a slow gastro-enteritis, and the second, brought on by bodily sufferings and mental distress, is a slow gastro-meningitis. This melancholy disease is not confined to one sort of locality; Strambio has seen it rage among the smiling hills of Seprio, Brianza, and on the confines of Olonna; and has remarked that, while it proved very destructive in the arid parts of the Duchy, it has been less malignant in those which are better watered. He found it to be prevalent among the poor peasants, who live in the dry plains and hills, drink clear wholesome water, and never feed on fish, or any salted meat; and on the contrary, to be much less common among the inhabitants of the wet and rice districts, who live a great deal on salt provisions, and who drink a very impure water. Similar observations have been made by Cerri, on the frequency of the disease in the dry grounds between Lago Maggiori and the Lake of Como, where the people live entirely on bread made of Indian corn, wheat, and rye, while the inhabitants of the mountains and wet country escape it. But, on the other hand, Dr. Griva has seen it in many of the damp provinces of Piedmont, and in the very dissimilar regions of Friuli, Treviso, the Venetian States, Padua, Parma, Piacenza, Florence, &c.

Three stages of the disease have been described:—In the first, the skin of the feet, hands, and such parts as are exposed to the sun, becomes red, is very itchy, and in time the epidermis falls off in scales; in the second, the skin is wrinkled, hard, and full of chaps; the person is haunted with fear, is anxious, and cannot sleep; he falls into a state of hypochondriasis, imbecility, or of mania, is troubled with diarrhœa and extreme debility, and loss of all muscular powers; yet there is no fever. The third or last stage is marked by fever, colliquative purging, stupor, and death. Strambio states that pellagra is successively of an intermittent, remittent, and continued type; that the cutaneous affection has also a threefold character, being at first scaly, then vesicular, and lastly desiccative, or in which the skin peels off without any preceding heat or redness; that the delirium is sometimes of an acute form, and that, at other times, it is chronic, shewing itself under the signs of deafness, melancholy, extreme taciturnity, attempts at suicide, especially by drowning. The duration of the disease is generally for several years. The class of the population who are by far the most subject to it are the peasantry. It is not often observed to attack children under 12 years of age. Some authors deem it contagious and hereditary; others deny both of these positions. The pathology of pellagra is not very satisfac-

torily made out. The following appearances have been noted: a collection of yellowish serum between the membranes, and in the cavities of the brain—congestion of the vessels of the pia mater, plexus choroides, and of the cerebral substance, suppuration and hardening of the brain itself—inflammation of the spinal chord and of its membranes—accumulation of serum in the pleural cavities—inflammation and abscesses of the lungs—ulcers of the trachea—dropsy of the pericardium and of the abdomen—chronic peritonitis—ulceration of the stomach and intestines—hypertrophy—tubercles and scirrhus of the liver, &c.

The prognosis is always very unfavourable; by many the disease is deemed incurable.

Treatment. Diaphoretics, warm baths, vegetable decoctions, as of sassafras, guiac, &c. aperients, antiscorbutics, mercury, antimony, and a host of other remedies have been tried, but hitherto with little avail; we need not dwell longer on this part of the subject; but rather detail a few illustrative examples.

Case 1. A woman, aged 34, was admitted into the Milan Hospital with symptoms of gastric irritation. On examination, the hands, feet, and bosom were found affected with an erysipelatous eruption; the redness was uniform in some parts, patchy in others, and having the appearance of what artists term being stippled; its hue varied from a light to a very dark shade of red. The rest of the surface was not affected. The patient had been ailing for three months; had lost her appetite, strength, and she had become very desponding: the abdomen was slightly tender on pressure—the tongue was red—considerable thirst. Since her infancy, this woman had been engaged in rural labours. She was treated with aperients, cooling drinks, and light, wholesome diet, and speedily got well; the erythema died away, and the skin was detached in small scales.

Case 2. A man, aged 47, entered the hospital in June, 1830. He had suffered slightly from the disease two years before; but, after remaining for several weeks, it disappeared on the commencement of Summer. It returned in the first week of March of this year (1830) with more severity; he experienced headach and confusion of senses, and a feeling of dragging along the spine; great debility, especially of the limbs, and lowness of spirits. The skin of the arms, hands, and feet was dry, furrowed, slightly wrinkled, and of a brown colour; here and there it was desquamating in small white or brownish scales, and was observed to be red and shining beneath these. The abdomen was tender on pressure—tongue red, no appetite, frequent purging, and loss of sensibility of the legs. He was treated principally with tepid baths, and, in the course of three or four weeks, had greatly recovered his health.

Case 3. A young female peasant, aged 17 years. She was much wasted in flesh, and her face indicated great distress. Tongue red, especially at the edges, and white in the centre; sensation of burning heat in the throat—abdomen painful on pressure—diarrhœa—pain and confusion of the head—extreme weakness of the lower limbs—frequent darting pains along the spinal cord. The skin of the nose and cheeks was covered with small yellow scales, and a similar appearance was seen on the bosom. The skin of the arms, hands, and feet was brown, dry, rough, and hard, and presented a dappled appearance; here and there were a few vesicles, and in other places the surface was scaly. She was treated with tepid baths, aperients and refrigerants, and wholesome diet, and speedily recovered.

Case 4. *in which the Disease had existed for* 18 *Years.* A woman, aged 36, was first affected with symptoms of pellagra in 1812. At that time they were not severe, and did not prevent her from engaging in her labours in the country; the disease always abated during the Winter. When she entered the hospital, in May, 1830, the following is

a report of her case. Irritation in the throat and stomach, purging, great emaciation, aspect of old age; tongue red, pulse full and frequent, epidermis of the arms, hands and feet dry, rough, brown, scaly on the fore-arms, and forming a sort of hardened cuirass on the fingers; when the scales were removed, the subjacent skin was white, and little altered. Leeches behind the ears, and a treatment similar to that pursued in the former cases was adopted with good effects; but there was every chance of the disease returning on the next year.

Case 5. EXHIBITING THE EFFECTS OF PELLAGRA ON THE MIND.

A woman, aged 25, had suffered several times from pellagric symptoms, but they were much aggravated in 1830; and when she entered the hospital the following were the symptoms; skin rough and very dry, in some places scaly; on the fore-arms and hands it was brown and appeared like a long glove drawn over them; when minutely examined, it was found covered with very minute scales, like those of a fish. For several days there was delirium, or rather alienation of mind. The state of the tongue and of the abdomen indicated gastro-enteritic irritation; considerable diarrhœa. Leeches and cooling aperients were ordered. The cerebral irritation gradually declined; and she then complained of a dull pain in the spinal cord, and utter inability to support herself on her legs. Under the use of the baths and the above treatment, she gradually recovered her health in considerable degree.

In the third stage or degree of the disease, the mental faculties become quite unhinged, and the bodily affection is much aggravated; the frame wastes, the features become sharp, complexion earthy, and aspect mournful and afflicted; headach, redness of conjunctiva, roughness and scaliness of the skin, which becomes disfigured with grooves and chaps; the reason falters, the mind is haunted with gloom and fear, and too often the wretched sufferer becomes quite lunatic, either moping in silent grief, or raving with madness. The most common species of mania is, however, a religious fatuity.

Case 6. CONFIRMED PELLAGRA RESEMBLING CONSIDERABLY ELEPHANTIASIS, AND THE LEPRA OF THE ANCIENTS.

The face of the patient was much emaciated, of a clear yellow hue, features very sharp, had long suffered from gastric irritation and protracted diarrhœa. The skin of the upper extremities from the fingers upwards to four inches above the elbow was covered with scales of a deep brown colour, very thick, especially on the back of the hands and fingers, so as to resemble the horny elevations or tubercles which we notice on the backs of some fishes; it was crossed in all directions with deep furrowed lines, which thus divided the hardened patches into numerous small, rough, coarse, and elephantiasis-like tubercles. The issue of the case is not stated.

When pellagra affects young children they are generally found rickety at the same time, with large tumid bellies, and marasmus.

The following cases will illustrate the pathology of pellegra.

Case 7. A man, aged 44, had suffered for 10 years. The skin of the forearms, hands and feet, presented the usual appearances, previously enumerated; the mind had become affected; the vision imperfect, and sometimes double; he could with difficulty stand upright, and he felt as if there was a weight which dragged the head and spine backwards. He died suddenly.

Autopsy. Not much emaciation; the bones of the cranium were thickened; the archnoid adhered in some places to the pia mater, and between this latter membrane and the brain, there was a copious deposition of an opaline, gelatinous substance; the meninges were injected with blood; substance of brain not changed; a considerable quantity of blood found at the base of the brain; a copious intermuscular bloody effusion over the lower cervical, and upper dorsal vertebræ; the membranes,

especially the archnoid of the spinal marrow, were uniformly red; vessels much gorged, and a frothy serum in some parts. The cineritous substance was firm; the medullary portion much softened, especially at the upper part of the cord; the lungs were affected with pulmonic apoplexy; the stomach exhibited an inflammatory redness; a similar appearance was noticed in some parts of the intesnties—other viscera healthy.

Case 8. A woman, aged 66, from the country, entered the Milan Hospital, labouring under enteritis, and also pellagra, of a long standing; the tongue was dry and red, the pulse thread-like, bowels much relaxed, features sharp, limbs anasarcous; she gradually sank from exhaustation.

Autopsy. Effusion of serum in the pleuræ and pericardium; lungs nearly healthy; heart not affected, except that the left ventricle was hypertrophied; liver and spleen much congested, but of natural consistence; a little serous effusion in the abdomen; mucous coat of stomach affected with chronic inflammation; meseraic vessels of a brownish hue; and intestines exhibited patches of long-protracted plegmasia, dura mater adhering in several places to the arachnoid, which was found thickened, nacreous and opaline; pia mater highly injected; substance of brain denser than usual. Meninges of spinal marrow not much changed; medullary matter very soft and creamy throughout the whole extent.

In conclusion, we give a comprehensive statement of the symtomatology. At first, a general lassitude, anorexia, and dyspepsia; the tongue is white, yellowish, or red; the belly tender; thirst; inability of active exertion, and speedy fatigue; headach and vertigo; pulse frequent; sense of heat along the spine, and darting thence over the rest of the body, generally fixing itself in the soles of the feet; tendency to gloom and lowness of spirits; after a longer or shorter period, the skin becomes affected; and this occurs almost always in the Spring months, and ceases in Autumn; the earliest appearance is that of fulness or distension, accompanied with a feeling of burning heat in the part, which is usually the arms, hands, and fore part of the chest. An erythematous blush, which is termed "erythema solare," by the Italian physicians, next appears, sometimes in patches, at other times spreading more continuously; as the redness abates, the part is covered with whitish scales. The health of the patients, at this early period of the malady, is always re-established when Autumn comes round; again the symptoms return on the approach of Spring, and each successive year, with additional severity; the feebleness and lassitude become greater; the headachs more distressing and stupefying; the patient feels dizzy, and his vision is impaired; the feeling of a weight, and a dragging of the head and spine backwards adds now much to his sufferings; the general sensibility is much diminished, and he cannot grasp any thing in his hands; and his tongue and lower jaw are in constant trembling motion, which he cannot restrain; his mind becomes more and more sad, until complete alienation supervenes; at this period of the disease, the tongue is redder than before; there is a burning heat in the throat, excessive thirst, irregularity of appetite, and commonly a diarrhœa; the skin has become dry, thickened like parchment, rough and furrowed with lines, or with chaps, and small vesicles are scattered over some parts of its surface, while others are covered with scales; and when these are removed, the skin is observed of a shining red, or of a dirty white appearance; when touched, it feels like a piece of moistened paper; the most remarkable thickening of the skin occurs on the hands, fingers and feet. Sometimes, though rarely, the skin round the eyes, of the nose, temples, forhead, cheeks, and ears, is affected with the pellagric cutaneous disease. When the patients, even in the second stage, have been under judicious treatment for two or three months, they speedily seem to recover their health; but the amendment is only temporary, and the next year all the symptoms in a worse form are renewed In some cases, the disease remains stationary for a number of years, say from 10 to 40, and if the patient

fortunately removes from the districts where it prevails, to a more salubrious climate, he may conquer entirely its effects; for example, a man born of pellagric parents, and who had exhibited the symptoms of it when young, became a soldier, and served for 15 years in Hungary, France, and Germany, without experiencing any attack. He returned to his native country; the disease reappeared, and it attacked him every year. And again, a woman who had been subject to the disease more or less from her childhood, was made a nurse in the Milan Hospital; from that period she recovered quickly, and retained her health;—after some years she went back to her native country, and the disease as speedily was renewed.

In the third, or last stage, the face becomes yellow, earthy, shrivelled, and pinched to sharpness; the bones project almost through the skin, the eyes are sunk, the tongue is dry and black; there is insupportable thirst; appetite is quite gone; abdomen tender; profuse diarrhœa which cannot be checked; there is general anasarca, and the solid parts are wasted; frequently, offensive fetid sweatings, convulsions, or paralysis come on, and quite deprive the wretched sufferer of any power of motion, and at the same time he becomes idiotic or mad; the cutaneous disease not unfrequently at this period resembles ichthyotis, or elephantiasis, and the fingers are encrusted with a cuirass of hard tuberculated skin; the patient dies either of dysentery, marasmus, typhus, scurvy, phthisis, or some other organic visceral disease.—*Journ. Complément.*

The above remarks are from the pen of M. Brierre de Boimont, who visited Italy in 1830; they are well worthy attentive perusal, as they faithfully delineate one of the many ills which afflict the peasantry of fair Italy. We can vouch for their accuracy, from our personal observation. It may be worth the reader's while to compare the preceding description with what we have written on the same subject in the "Change of Air," vide pages 75, 6, 7. 2*d edit.*—ED.

XVIII.

BILL OF MORTALITY IN PARIS, IN 1830.

	No. of Deaths.
From Pulmonary Catarrh	3535
Phthisis	2948
Enteritis	2452
Pneumonia	2150
Gastritis	1997
Convulsions	1880
Apoplexy	1308
Cerebral Fever	1288
Scirrhus and Cancer	602
General Dropsy	386
Aneurism	372
Peritonitis	331
Hydrothorax	358
Small-pox	329
Measles	224
Croup, hooping cough, dention, scarlatina	700
Children still-born, or which died soon after birth	2720
Old age	958

Remarks. The fatal cases of pulmonary catarrh occurred chiefly in children under five years of age; in adults about thirty years old; and in aged people from sixty-five to eighty years.

With regard to phthisis, it appears that it most frequently manifests itself in young persons of 14 or 15 years of age; that it goes on with its destructive ravages, from that period of life, till they reach and pass the age of 40, after which its frequency declines. Many more females than males fall victims to consumption. Of the enteritic and gastritic cases, three-fourths occurred in children, under the age of five years. The cases of small-pox occurred chiefly in children under 10 years. Those of apoplexy in persons between the ages of 40 and 65, and still more frequently between 65 and 75; very rarely in those more advanced; a few cases occurred in young children, but none in those between 5 and 20 years. The total mortality in Paris amounted to 28,503 deaths, of which 14,046 were males, and 14,457 were females. The number of deaths in public institutions was 10,009, and in the

arrondissements 18,494. The part of Paris in which the mortality was the greatest, was the district of the Hôtel de Ville, where one in 31 of the population died; whereas, in that of La Chassée d'Autin, only one in 63 died. The following table may be interesting to such of our readers as are acquainted with the topography of Paris :—

DISTRICTS,	Population.	No. of Deaths.	Proportion of Deaths to Population.
1 Palais de Justice	3043	182	1 in 37
2 Ile St Louis	6073	411	37
3 St. Eustache	9877	225	44
4 Tuileries	9966	312	32
5 Arcis	10602	240	44
6 Marches	10766	308	35
7 Montmartre	10973	184	60
8 St. Honore	11006	231	48
9 Louvre	11215	292	39
10 Mail	11337	187	63
11 Sorbonne	11688	358	33
12 Banque	11747	237	50
13 Cite	11925	328	36
14 Arsenal	11960	325	36
15 Bonne Nouvelle	12511	300	42
16 Hotel de Ville	12598	411	31
17 Champs Elysees	13274	294	45
18 Mont de Piete	14885	334	45
19 Lombards	14974	376	40
20 Marche St. Jean	15141	412	35
21 Montorgueil	15326	391	39
22 Teydau	15734	314	50
23 Ecole de Medecine	15766	336	47
24 Faubourg St. Germain	15928	276	58
	287735	7264	

XIX.

ABSCESS OF THE LUNG COMMUNICATING WITH THE SURFACE.

A YOUNG man, aged 16, of a delicate and scrofulous constitution, had for many years been troubled with enlarged cervical glands. Two years ago, an abscess, situated in front of the trachea, and below the upper end of the sternum, made its appearance; it broke, healed, and broke again, leaving a fistulous opening on the fore part of the neck. At the same time several strumous abscesses formed on the thighs; and he had always a cough which was worse during cold weather. The discharge from the neck abscess was checked; and immediately afterwards the cough was aggravated, and he felt sharp pains behind the sternum. During a violent fit of coughing, a considerable quantity of pus mixed with air was expelled from the orifice in the neck; and from this time the symptoms became more alarming, and he speedily died hectic. Before death there were two fistulous apertures by which the air entered and was expelled during inspiration and expiration; the discharge was not of unhealthy appearance, but very fetid.

Dissection. The two openings of the neck led inwards to an abscess seated between the sterno-mastoid muscles, and between the superficial and deep cervical fasciæ. At the lower part of this abscess was found an aperture, which proved to be the extremity of a fistulous passage, which led deep into the chest, through the texture of the lungs, till it reached the upper portion of the inferior lobe, and there it opened into an abscess of an inch and a half in diameter; the abscess was empty, its walls smooth; two or three bronchial tubes opened on its surface; the situation of this abscess was on the superficial or most anterior portion of the lung, and separated from the triangularis-sterni muscle, only by a very thin layer of pulmonary substance. The rest of the lungs was nearly normal, and quite free of any tubercular deposit. Other viscera sound.

Remarks. The above must be regarded as an instance of simple abscess unconnected with any softening of infiltrated tuberculous matter.—*Ibid.*

XX.

CASES OF SPONTANEOUS GANGRENE.

A MAN, aged 61, of a sound and strong constitution, was admitted into the Hôtel Dieu; there was an immense phlyctena, covering the lower third of the left fore-arm; the ring and small fingers on the right side were similarly affected; the skin around these vesicles was red, but in other parts of the limb of a purplish colour, and gave out a

peculiar gangrenous smell. When the raised cuticle was removed, the subjacent surface was at first reddish, but subsequently became of a slaty colour, and then black; he could assign no cause. The sores were dressed with chloruret of soda, and healed slowly in the course of three months and a half, during which time he took tonics largely.

Case 2. A water-carrier, æt. 73, had, for five days preceding his admission into the hospital, noticed a swelling on the right cheek, which appeared spontaneously. Five leeches had been applied; gangrene had followed, and now the eschar had reached from the malar bone to the lower jaw, and from the mouth to the masseter muscle; this side of the face was quite paralytic—great general prostration. He was ordered cinchona, camphor, and musk, and the sores were dressed with chloruret of soda; in time, the whole thickness of the cheek had sloughed off, exposing to view the inside of the mouth, and speedily he died.

No assignable cause could be traced.—*Ibid.*

XXI.

CASE OF POISONING.

[Reported by Professor FODÉRÉ.]

FIVE persons had dined off soup made of dry pease, lard, and pork sausages, and afterwards they had eaten some dried chervil; they experienced no bad effects. The supper consisted of the remainder of the soup, which had been kept in a cast-iron vessel; and no sooner had they partaken of it than all were seized with violent symptoms, viz. vomiting, intense thirst, burning and sharp heat in the throat, stomach and bowels, great lassitude, and headach; some were also purged. It was found that, on giving some of the soup to a moderate-sized dog, it immediately vomitted. The five persons continued to be more or less indisposed for several days; one, a female, became worse on the sixth day, and then consulted a midwife, who administered some "theriaque;" but the next day she died. On dissection, the alimentary canal was found violently inflamed, and there were several black patches on the stomach; the contents were carefully collected, and submitted, several days after the death of the patient, to Prof. Fodéré for examination. He remarked their extreme fætor and putridity, and, from this occurrence, was led to suspect the presence of a narcotic poison, having always observed that such was not the case when any metallic and acrid poison had been swallowed. So exceedingly offensive were the contents on the present occasion, that M. Fodéré, although much accustomed to enquiries of this sort, could not remain in the laboratory till it was purified with chlorine gas. Before we state the particulars of the analysis, it is proper to allude to some of the appearances during life and after death, viz. the extreme dilation of the pupils, the cerebral congestion, the congested state of the bronchia, from which it was at first suspected that the leaves of conium might have been mixed in the salad with the chervil. The contents of the intestines, after being filtered, were carefully evaporated, and tested with sulphuretted hydrogen, nitras argenti, sulphas et ammoniuretum cupri; but these agents produced no changes. On exposing the collected deposit from the filter to heat, in a platina crucible, no odour, except that of animal matters, could be perceived; all traces of a garlic or arsenical smell was absent. Having now ascertained that there was no traces of mineral poison, our attention was directed to ascertain if any vegetable one had been swallowed; another portion of the fluid contents was taken, and part of it treated with alcohol, part with a weak solution of muriatic acid; the fluids were then filtered. On adding oxalic acid, traces of lime were found, and muriate of barytes shewed the presence of sulphuric acid. When liquor potassæ was added, a lixivial and ammoniacal odour was disengaged, and a gelatinous or glairy precipitate, which remained in suspension through the fluid, was occasioned. When carefully filtered, the precipitate was collected from the filter

and dried; it was white, confusedly crystallized, and of a salt and bitterish taste. On adding a few drops of nitric acid, the colour changed from white to red, and then to yellow, as is the case with morphine, brucine, strychnine. It was therefore suspected that death had been occasioned by the "theriaque," or opiate electuary; and it was, therefore, desirable to ascertain if there were any traces of its presence in the alvine contents: as iron is the best test of opium from its striking a blood-red colour with it, we added a few drops of a solution of murias ferri on these, previously diluted with distilled water, and the characteristic change of hue was directly perceptible. On testing the substance which had been obtained by the first process, and which by becoming red on the addition of nitric acid, was suspected to be morphine, with the same ferrugino s sal', no change was effected; it became, therefore, a question, whence had this proceeded? and we are still left to suppose, that the opium of the theriaca may, probably, during the putrefaction, become decomposed, and the morphia be thus separated from the meconic acid. Unfortunately, none of the soup was preserved for examination; and, as some theriaca had been administered as an antidote to the person who died, much uncertainty hung over the case. Besides the greasy matter of the "charenterie," or pork sausages contained in the soup, might have acted on the metallic vessel in which it had been kept; and, accordingly, the hydrocyanate of potass detected the presence of iron.

The conclusions which Fodéré draws from the preceding case, are the following, and deserve attention, as being applicable to many cases of suspected poisoning.

1. That the professional person who was first summoned ought to have examined the quality of the dried chervil, and ought to have saved for future examination the remainder of the soup; he ought also to have stated the age, previous health, and habits of the patient.

2. That the five persons who had partaken of the soup, had certainly suffered from some poisoning; but that the soup did not contain any of the mineral poisons, which are usually employed for criminal purposes.

3. That it is probable that the accidents depended on some spontaneous changes which the soup underwent, while kept in the metallic vessel.

4. That the death had been promoted by theriaca, which had been improperly administered, not, indeed, with the intention of murder, but certainly in contravention of the law of "19 Ventôse, et 21 Germinal," by the midwife, who had been applied to for the purpose of recommending a medical man to the patient. One remark more:—Two of the persons had eaten milk and potatoes after the soup an ' chervil, and these two suffered less, which accords with what Fodéré has mentioned in his "Legal Medicine," that farinaceous, mucilaginous, and emollient substances, swallowed before or after a poison, remarkably assuage their deleterious effects.—*Journ. Complem.*

XXII.

CHOLERA, GREAT VARIETY IN THE TREATMENT OF, IN PARIS.

WE have regretted that we have not noted down each and every mode and method which has been recommended in this country; it would form a document at once curious and instructive, at least so far as in shewing us, how the monster has laughed to scorn all the futile attempts to arrest its fury; and how frail and feeble are the grounds on which the practice of medicine, in the hands of many, is founded. No one, we think, will dispute with us, that the only rational hope of successfully treating this, or any other disease, is by a comprehensive and philosophical scrutiny of its physiology or symptoms during life, and of its pathology, or its appearances after death. We must not look to one, or to another of these singly, but group them together, and cautiously endeavour to trace every link of the chain;

it is only thus that we can expect to arrive at any rational conjectures as to the causes and essence of the disease; and till then, the treatment must necessarily be empirical, and on the whole, perhaps, as inefficacious, nay, even decidedly hurtful, as beneficial. If, in any future period, a method of cure, at once successful and generally applicable, be discovered, we, or our successors, must look back to the records of this disease, with feelings of little respect for the soundness and sagacity of the present race of medical men; for we have all along permitted ourselves to be too much carried along by an exclusive or undue attention to one particular phenomenon, and on that, as on a pivot, we have made our practice turn; but it is never too late to be wise, and our wisdom will be best displayed, by endeavouring to draw some useful lessons from the blundering errors we have hitherto committed. Some idea may be formed of the malapraxis of the French physicians, from the following report of the different plans of treatment of the cholera in the various Parisian hospitals.

Hôp. Necker — M. Bricheteau. Vapour-baths, aromatic infusions—general and local bleedings, sinapisms and stimulating embrocations—wine, æther, and cordials—emetics, cold lemonade, iced water, effervescing draughts, ice laid on the epigastrium, opiate enemas, opium pills by the mouth. In less severe cases, energetic antiphlogistic treatment.

Hôp. Orphelius—M. Blane.—Bleeding, emetics, effervescing draughts, purgatives, and then astringents, if the purging is obstinate—iced drinks.

Hôp. Piepus—M. Patrix. Fumigation with chlorine — bleeding — emetics — narcotic decoction—iced lemonade—blisters on each hypochondrium.

Hôp. St. Antoine.—M. Mailly. Leeches to the anus and epigastrium—venesection, antispasmodic and opiate drinks—stimulating frictions—infusion of peppermint, with acet. ammoniæ.

Hôp. St. Louis—M. Biett. Subnitras hydrargyri—charcoal, in doses of ʒss. every hour.

M. Lugol. External warmth — æther, with laudanum and acet. ammoniæ—pills of acetas morphiæ. For drink, strong tea, well sugared, acidulated, and alcoholised! against the vomitings, seltzer water, either alone or with wine.

M. Gerdy. General stimulating frictions—blisters along the spine—sinapisms to the arms, legs, and epigastrium—gaseous, laudanised potion—pills of camphor.

M. Jobert. Sinapisms along the whole extent of all the limbs—laudanum—leeches to the anus. When vomiting is obstinate, seltzer water, or the withdrawal of all drinks.

Hôp. Salpetrière—M. Piorry. General or local bleeding—hot aromatic infusion—Malaga wine or light punch during the collapse—iced water, and, when re-action ensues, leeches, poultices, and gum drinks.

Hôp Pitié. Fresh lemonade or warm tea——peppermint and laudanum, opiate enemata. M. Andral employs ipecacuan emetics—excitants during the cold stage—local and general bleedings during re-action—opium in small doses.

M. Lisfranc. Tea, lemonade, and punch—enemata, with sulphate of quinine—sinapisms and stimulating frictions.

M. Velpeau. Sinapisms, opiates, quinine enemata, to which are added laudanum and camphor.

M. Bouillaud. Bleeding, leeches to abdomen, frequently repeated—iced lemonade. In the state of complete collapse, weak coffee as a drink, and drawing a heated iron along a flannel band, which has been well soaked in equal parts of liquor ammoniæ and spir. tereb. and applied over the whole length of the spine.

Val de Grace—M. Broussais. When there

is profuse vomiting and purging, the patient should be given ice alone to swallow: when the state of cyanosis ceases, we ought to substitute drinks. No frictions should be employed. General bleeding, or, what is better, numerous leeches, and afterwards hot poultices to the leech-bites —sinapisms, vapour baths—leeches and iced water to the head.—

Journ. Complément.

The simple treatment of Broussais coincides nearly with the cold-water practice in this country.—ED.

XXIII.

CHOLERA ANECDOTES.

A GENTLEMAN, recently returned from Paris, informs us that it was most amusing to study the French character, when cholera made its first alarming onset in the metropolis. The cafés were crowded with persons, of all descriptions, calling for "punch à Majendie;" nothing else was drank, and many a severe griping belly-ache was the consequence; but, in addition to this punch, every one took to cigar-smoking, and you might see in the streets, as you passed along, those who had not served their noviciate to the practice laying hold of any rails or balustrade, and retching and vomiting after every whiff; yet they must nobly persevere, for nothing was so effectual a preservative as smoking, they were told. If any looseness came on, it was often no easy thing to ascertain, whether one of these "jeunes hommes de tabac" were really affected with cholera, or only with the effects of the smoke. So great was the demand for cigars at first, that our friend for some days could not obtain one, at a dozen or more shops where he applied.

XXIV.

CHOLERA.

UNWILLING though we are to occupy space with details of cholera, we consider it most useful to avail ourselves of any document or reports, which tend to throw light on the history of its propagation. Few, if any, are now so hardy as to maintain that it is by contagion, and by that alone, that the pestilence has spread from India's shores to inland America; such dogmatism would not be tolerated as the opinion of a sane mind; but we ought equally to avoid the other extreme, of stoutly denying the possibility of its conveyance from one patient to another, and of shutting the ears of our minds to any arguments advanced on the opposite side of the question. The zeal and anger of party-discussion has blown over, and we now can quietly look back on the introduction of cholera into this, or any other country, as we should do upon any historical event, and dispassionately weigh the probabilities of its origin. It is, indeed, very gratifying to us, that the views which we almost alone maintained, against a battery of numerous assailants, appear now to be those of all the rational members of the profession; they have even been embraced by the very men who, at one time, most vigorously opposed them: but such is, and ever will be, the triumph of calm and impartial truth, and the only merit we assume to ourselves, is that of considering both sides of the hotly-contested question, with a fair and unbiassed mind—of studying the history of its progress from the East to our own shores, and of comparing the opinions and statements of others with our own experience, both abroad and at home. An argument at once philosophical and important, on the question—"Is cholera essentially contagious or no?" may be drawn, we think, from the undeniable fact, that long, very long, before the acknowledged irruption of the disease into any country, it had given, as it were, a colouring of its own, or a peculiar and unusual character, to other existing diseases. We shall select a case or two in proof from a paper by Dr. Sabatier, of Paris, published in the Journ. Univ. et Hebdom. It was observed by all the medical men there, that for six or eight weeks previous to the occurrence of the pestilence, there was a very general tendency, in all diseases, to be accompanied with an extreme

irritability of the alimentary canal, occasioning vomiting and diarrhœa. In the month of January, M. Baudelocque observed in two children, affected with small-pox and pneumonia, that the tongue was as cold as it ever is in the collapse of the cholera. The following very anomalous case exhibits other analogies.

A boy, aged 15, of a strong healthy constitution, residing in the Rue-Saint-Germain, was brought to the La Ch é Hospital, on the 25th October, 1831. Four days previously he had become indisposed, complaining of pain in the left fore-arm, of general weariness and debility. On the 24th, the pain of the arm was much worse—he was very restless, occasionally delirious, and then very heavy and stupi !—the light incommoded him. Profuse vomiting now came on, and also convulsive twitches of the whole body; alternately he was calm and agitated—at one time sitting up and answering questions, at another throwing himself on the floor, making strong efforts to vomit, and struggling violently: the action of the heart and carotids was powerful—pulse 138, sharp—respiration every now and then interrupted by a spasmodic contraction of the muscles of expiration, to force out the saliva which dribbled from the mouth. At times he was threatened with a feeling of suffocation, and experienced a very acute pain under the ensiform cartilage—bowels obstinately costive; symptoms of hydrophobia came on—the vomiting and ptyalism increased. Bleeding and opiates were employed, but nothing could be retained on the stomach, and soon after he was incapable of swallowing; still his consciousness and intelligence were unimpaired. But a great change quickly followed, and he sunk into a state of extreme exhaustation, and died in the afternoon of the day upon which he was admitted.

Dr. Sabatier alludes particularly to the obstinate vomiting, to the rapid sinking of the features, to the retention of the mental powers, even after the patient had become icy cold, and to the sudden annihilation of the pulse, as approximating the disease, in some respects to cholera. [We must acknowledge that the resemblance is not great.—ED.] The dissection of the patient did not disclose any satisfactory morbid appearances.—*Journ. Hebdom.*

XXV.

FISSURE OF THE ANUS, TREATED WITHOUT AN OPERATION.

IN almost every case of this malady, the cause may be traced to a spasmodic constriction of the sphincter ani; the fissure, is merely consecutive; by removing, therefore, the original evil, the fissure will generally heal of itself. The local application of belladonna will effect this in a great number of cases. We take some lint, and grease it well with an ointment, consisting of a drachm of the extract, a drachm of acetas plumbi, and six drachms of lard, and introduce it into the rectum. It must be repeated several times a day, and the practice is to be continued for some length of time.—*Bullet. de Therap.*

XXVI.

INGENIOUS METHOD OF APPLYING NITRAS ARGENTI TO ULCERS OF THE CORNEA, &c. &c.

TAKE a silver female sound, or large silver probe, and heat an inch of its extremity in the flame of a candle; then rub lightly upon it a stick of the lunar caustic; the salt is immediately melted, and unites with the metallic surface, coating it with a thin layer of caustic; if it be too thin, we have only to repeat the same process. When the instrument cools, it must be wiped clean, and then it is ready for use.—*Ibid.*

XXVII.

CONTAGION OF DISEASE..

DUPUYTREN states that he has repeatedly observed, that diseases assumed a contagious, or at least a spreading character,

when more patients than the regular and proper number have been admitted into the wards of a hospital, and that the calamity has been at once arrested when these were thinned, and the ward was sufficiently ventilated—*Ibid.*

XXVIII.

RHINOPLASTIC OPERATION.

A FRENCH soldier, at the battle of Waterlao, had his nose clean cut off by a sabre-wound, the upper lip was also divided, and five of the front teeth, with a portion of the alveolar process of the upper jaw, knocked out; but hero-like, as all Frenchmen are, he pursued his opponent, an English soldier, and had ample vengeance we are told. The wounds healed, and for several years he wore an artificial nose of silver, and afterwards one of copper, by both of which he was much annoyed. He was persuaded by a surgeon at Rouen to submit to an operation, which consisted in dissecting a flap from each cheek, and uniting them along the bridge of the nose-to-be. But the deformity was greater than ever. M. Blandin was now consulted; he performed his rhinoplastic operation, by dissecting the flap from the skin of the forehead. The artificial nose united very favourably, and even withstood an attack of erysipelas, which spread over the face, a month after the operation. It is to be remembered that M. Blandin does not ever detach, or cut through the pedicle of the flap; it is, therefore, obvious that this portion cannot very easily, or possibly become attacked, in consequence of its having been necessarily twisted on itself, when reflected down, unless some ulterior pruning and embellishment by the scalpel be resorted to. Other surgeons have divided the pedicle, when the rest of the flap has become firmly united; but M. Blandin does not approve of this, and prefers the following process:—With a scalpel he pares the already cicatrized edges of the pedicle and also the surface of the corresponding integuments, which cover on each side the nasal processes of the upper maxillary bone; these raw surfaces are then carefully applied to each other, and retained in this position by a compress and bandage.

The cure in the above case was most satisfactory, or in the words of our Continental brother, "it was a nose, a true nose—such a nose as is seldom to be seen (we believe it)—a regular, nay, even almost an elegant nose!! and one for which many of my acquaintances would gladly have exchanged their own; and not such a hideous stump or appendix as M. Delpech, and M. Lisfranc, and others, have grafted on the faces of their unfortunate patients!!"—These latter operators, we are informed, have always divided the pedicle of the frontal flap.

The advantages of preserving the original attachment of the pedicle are manifold; the nutritious vessels are preserved, and the life of the new nose is, therefore, much stronger; the skin, moreover, retains its natural colour, and does not become purple, as has been the case after most operations; besides, the tip of the nose is prevented from falling downwards on the upper lip, and thus closing up either one or both nostrils, an accident which has frequenty happened, and caused much annoyance both to patient and surgeon. It may be supposed that, in M. Blandin's method, an awkward or ugly button, or protuberance, must remain at the point where the pedicle is twisted; this is a mistake, for it gradually wears away, and no deformity remains.

Perhaps it is not generally known that, if we blindfold a patient a few days after a rhinoplastic operation, and the new nose be pricked, he will refer the sensation to the forehead; but when the union becomes perfect and complete, the mistake is no longer committed; this, therefore, may perhaps be taken as a test of the proper time at which the pedicle should be divided, if the operator determines upon that.—*Ibid.*

XXIX.

On the Changes which the Points of the Fingers undergo in Phthisis, &c.

Hippocrates remarked that, in those who died of pulmonary consumption, the nails became bent—"phthisitis ungues aduncî;" the assertion used to be called in question by many medical authors, but M. Pigeaux, who has directed his attention to this subject, and written "a memoir on the etiology, symptomatology, and the mechanism of the fusiform developement of the extremities of the fingers," fully confirms the truth of the aphorism. He examined the hands of 200 phthisical patients, and found that 167 of these were provided with "griffes Hippocratiques." Every tubercular patient does not certainly present this phenomenon, but in other diseases of atrophy the proportion is much smaller, not exceeding one in ten; it appears therefore, that a certain relation may be traced between thoracic maladies and the curving of the nails, although it occurs in other diseases, but certainly not so frequently. In 183 cases of diseases, not tuberculous, which had produced great emaciation, 17 exhibited the phenomenon of the curving of the nails in a very remarkable degree; of these 17, nine were cases of organic affection of the heart—four of emphysema—two of asthma and catarrh, and two doubtful. An obvious dyspnœa existed in 13 of these cases, and also in almost every one of the 167 tubercular cases. I have no doubt that some connexion may be traced between all such maladies as create an impediment to the respiration or circulation, and the appearances of the nails alluded to, or, at least, between the former and the fusiform swelling of the last digital phalanx, with which the curving is generally associated. In 20 of the 167 tubercular cases, the patients had not lost their embonpoint. After many examinations into the cause of these phenomena, I am satisfied that the change in the points of the fingers precedes, and is the cause of, the curvature of the nails. Now this change consists chiefly in an œdematous infiltration of the pulp of these, by which the nail becomes mechanically forced out and forwards, and thus its end is curved round. As a general rule, it may be stated that the fusiform developement of the last phalanx of the fingers, with the curvature of the nails, is generally indicative of the presence of tubercles, or of any derangement of sanguification. If we notice particularly the change of form, we find that the swelling begins at the articulation of the 3d with the 2d phalanx—that it increases somewhat towards the root of the nail, which becomes the most projecting part, and then it tapers off to the end of the finger: the thumb and fore-finger are generally affected first. The progress of this affection does not depend so much on the "phases" of tubercular disease, or of organic affections of the heart, as on the influence which these have on the general state of "hematosis" and of respiration. I have observed it to increase, diminish, and even to vanish, with the removal of the cause which had produced it. It is more common in women than in men; it is much more rarely seen in the toenails, with the exception of that of the great toe, the swelling of which, and the consequent "growing of whose nail into the quick, often gives rise to much pain and annoyance." To impress his readers with the importance of the above appearances, as symptoms, the author says that he has, by attention to this particular, repeatedly been enabled to fortell the severity and danger of a pulmonary catarrh, of a pneumonia, &c. which were supposed to be of an innocent nature! he, therefore, regards it as a very unfavourable sign; it exists, he says, in six-tenths of consumptive patients, and, on the whole, it is more frequently seen in those who still retain their embonpoint, than in those who are much emaciated. If the above remarks be confirmed by experience, it must be considered as a valuable adjunct in guiding our diagnosis. The anatomy of this change will be readily understood from what has been stated above; the nail, separated from the finger, appears very little, or perhaps not at all curved; but

when in situ, it is found to be elevated and pushed forwards by the infiltrated pulp *underneath;* the bone is not altered.—*Archives Générales.*

We do not vouch for the entire correctness of the preceding details, but deem them well worthy of attention by all enlightened physicians.—ED.

XXX.

CASES OF DISEASES OF THE KIDNEYS.

THE history of the pathological states of the kidneys is still very imperfect; the late Dr. Dance, who died a few months ago of cholera, one of the physicians of the Hôtel Dieu, at Paris, left some manuscript observations on this subject; from these we select the most interesting.

Case 1. NUMEROUS CALCULI IN THE SUBSTANCE OF THE KIDNEYS; DILATATION OF THE INFUNDIBULA AND PELVIS, WHICH WERE ALSO INFLAMED.

A girl, aged 23, entered the hospital on the 12th January, 1824. Two years and a half before, she first voided some blood with her urine, and felt severe pains at the time in the loins. The urine was muddy, thick, and afterwards whitish and purulent, and scanty in quantity. These symptoms continued more or less for 18 months, at which time she experienced a feeling of great weight and heaviness in the renal region, and the urine still deposited the same puriform matter, but there was no sand or gravel mixed with it. Three weeks ago the catamenia were suddenly suppressed by exposure to cold, and from that period she has been very ill, complaining of great pain and tenderness over all the abdomen and in the loins; thirst, nausea, urine voided with much pain, and only in small quantities. Leeches were applied to the anus, and an emollient ptisan ordered. The severe pains of the abdomen were relieved, but those of the kidneys became worse and worse. Vomiting, pulse weak and feeble, facies hippocratica, announced approaching death, which took place two days after.

Dissection. The kidneys were found larger by one third than usual, embossed on their surface, hard and resisting to the finger in some places, and fluctuating in others. On dividing them, the scalpel grated against numerous calculi nicked into the substance of the kidneys, and jets of pus escaped at the same time from many points. Nine calculi were found in the left kidney, and 15 in the right; each of these was contained in a sort of cyst, lined with a mucous membrane, and was bathed in purulent matter. These cysts were the dilated calices and infundibula. The calculi varied in colour, being white, yellowish, or ash-coloured; many were of the alternating sort, and consisted of numerous layers of uric acid, and ammoniaco-magnesian phosphates. The proper substance of the kidneys was much wasted; the ureters were greatly thickened; bladder small, and its texture indurated; its mucous membrane affected with chronic inflammation.

Case 2. ACUTE PARENCHYMATOUS NEPHRITIS, WITH SYMPTOMS SIMULATING THOSE OF MALIGNANT AGUES—SPEEDY DEATH.

A mason, æt. 35, had for three weeks suffered from a severe fixed pain in the renal region, which had been preceded by an œdematous puffiness of the lower extremities. No cause could be assigned for the attack. On admission, the renal region was found to be swelled and resisting to the hand; the whole abdomen was so tense, as to preclude an accurate examination; the countenance expressed great anxiety, the pulse small and rapid. Venesectio; blood inflamed. The symptoms were not relieved; the tongue became red and dry; the lumbar pain extended round to the epigastrium; and the urine was voided frequently and in small quantities; no sickness or vomiting; no pain nor retraction of the testicle, nor numbness in the groins. Shiverings, horripilation, and other symptoms of the cold stage of fever came on; he was copiously bled; the pain of the kidneys not abated.

For two or three mornings successively a similar febrile paroxysm recurred; the urine became of a blackish colour, but deposited a white sediment.

On the 6th day after admission, the patient was much worse; features greatly altered; breathing difficult, and severe pain in the epigastrium and region of the kidneys. The quotidian paroxysms begin with violent shiverings. Two days afterwards he died.

Dissection.—Head; three or four spoonfuls of serum in the ventricles. *Chest.* Lungs gorged with a frothy fluid. *Abdomen.* Left kidney quadrupled in size; at its upper part was a small abscess, between its tunica propria and the cortical substance, which was of a brown and purplish red colour. Numerous small abscesses, varying in size from that of a pea to a hazle-nut, scattered through the texture of the kidney, but found chiefly near to its surface; here and there the pus appeared to be infiltrated through the renal tissue, which had become much softened and converted into a flaky detritus; its colour was generally a reddish-brown, but marbled with white points of suppuration. These morbid appearances were most conspicuous in the cortical substance. The pelvis was sound, and also the corresponding ureter. The right kidney was wasted, of a firm resisting texture, and not exceeding in size a hen's egg; its surface was irregularly undulating and embossed, as we observed in the fœtal state; pelvis and ureter healthy and quite permeable. Bladder contracted on itself; half filled with a thick muddy urine, like a decoction of bran.

Remarks. The preceding case is one of inflammation affecting the parenchyma of the kidneys, and not as in ordinary nephritis, the mucous membrane of the pelves and infundibula. The symptoms, with the exception of the fixed and severe pains in the loins, very much resembling those of a malignant intermittent, or perhaps rather, remittent fever; the quotidian aggravation was very remarkable. Physicians should attend to this.

Case 3. HYPERTROPHY AND RAMOLLISSEMENT OF BOTH KIDNEYS, GIVING RISE TO GENERAL DROPSY.

A female, aged 32, stated that she had been, for 18 months, more or less affected with dropsy of the legs and belly. No cause could be assigned. The heart was deemed sound, upon auscultation; there were no palpitations or dyspnœa,—could lie easily in the horizontal posture. A constant dull pain in the right hypochondrium; with the exception of this the patient complained of no other uneasiness. Urine thin, limpid, and very scanty; thirst moderate, pulse small. The disease increased in spite of diuretics, and she died suddenly and unexpectedly a month after her admission. The symptoms were altogether of a negative nature.

Dissection. Cellular texture loaded with serum. Half a pint of effusion in each pleura. Lungs and heart healthy. Several pints of serum in the abdomen. Liver healthy, although it was of a colour somewhat yellowish; other viscera sound, except the kidneys, which were greatly enlarged, and also softened in texture; their colour was that of yellow wax, the tunica propria adhered very loosely to the cortical substance; which was the structure chiefly affected, the tubular portion appearing healthy; the contrast between these two was very marked; by scraping with the finger, and having a stream of water to play on it, the whole of the former might be washed away, so soft it was, while the central medullary part was left. The infundibula, pelves, &c. were healthy.

Remarks. The preceding is a good illustration of that species of dropsy which is caused by an organic change in the texture of the kidneys, and which Drs. Bright and Christison first made known. We have already stated that the thoracic viscera were sound; and also the liver, which are the organs, to diseased states of which dropsy is usually referable; but in the present case, the "origo mali" was in the kidneys, and in the secretory part of these, in consequence

of which they no longer can relieve the system of superfluous water of the system. Dr. Bright states, that the urine is albuminous in all cases of renal dropsy, and he regards this condition as pathognomonic. Dr. Christison has in similar instances detected urea in the blood. As far as our observations extend, we should say that the quantity of urine is very unusually small, and that it diminishes in the progress of the disease. The thirst is also not so considerable as in other dropsies.

It is still a question, what is the true nature of the changes which the kidneys undergo; it is too much the case in the present day to ascribe every example of ramollissement to a slow inflammation; there is seldom any pain, and if there is, it is rather a dull heaviness than an acute feeling; hæmaturia in several cases has preceded the first symptoms of dropsy. Many cases of what have hitherto been deemed essential, or idiopathic dropsy, are probably of the character of the above-related.

Case 4. A CONTRACTION AND OBLITERATION OF ONE OF THE URETERS, WITH SUPPURATION OF THE KIDNEY.

A man, æt. 73, was brought to the hospital in a state of insensibility; on examining the stomach, a large swelling was felt in the left hypochondrium, extending from the edge of the ribs to the crista ilii; the patient could give no account of it. He died in an epileptic fit on the following day.

Dissection. Ramollissement of part of the cerebellum. The tumour of the left hypochondrium arose from a diseased kidney; it formed an immense cyst, which distinctly fluctuated under the finger; it extended from the diaphragm to the iliac fossa; when punctured, nearly three pints of true pus flowed out. The pus had not been contained in one bag, but in numerous compartments separated from each other by imperfect partitions; and each of which was lined with a distinct mucous coat. The outward walls of the kidney varied in thickness from one to three inches, and here and there presented some traces of cortical renal tissue; no calculous was found. The ureter was so enlarged as to resemble the large intestine; its upper extremity formed part of, and could not be distinguished from, the pouch of the kidney; it was much thickened, and strongly fibrous; an inch from the bladder, it resumed its natural dimensions, and had been converted into an impervious hard cord. The bladder was healthy. The right kidney double its usual size, and of normal structure.

Remarks. It is probable that the contraction of the ureter was the original cause of all the above mischief.

Case 5. DIABETES MELLITUS, FOLLOWING ANTI-SYPHILITIC TREATMENT—INJURIOUS EFFECTS OF AN ANIMAL DIET.

A man, aged 24, a short time after he had passed through a course of mercury, found the following symptoms come on: heat and dryness of the mouth; extraordinary thirst; and great increase of urine: he became gradually worse, and when admitted, his face indicated much distress; a yellow circle round his eyes; extreme emaciation and debility; skin dry; thirst intolerable, with a feeling of pain in the epigastrium; bowels costive; in the course of a night he drank more than 12 pints, and voided by urine as much; during the day the drink exceeded the excretion; the urine was transparent, almost colourless and tasteless, but sugar was found on analysis; for 10 days he was put on an exclusive animal diet; but his stomach could not bear it, and moreover no satisfactory result was obtained. A profuse diarrhœa supervened, and while this lasted, the diuresis was greatly diminished. Symptoms of hectic followed and he died three or four months after the commencement of the disease.

Dissection. Extreme emaciation; no vestige of fat; thoracic viscera sound; chylopoietic viscera nearly normal. There was only one kidney, and this was placed transversely across the spine; on each lateral extremity was found a supra-renal capsule, situated in its natural position; the shape of this single kidney was like that of a horse-shoe, convex above; its thinnest portion was that which

rested on the vertebræ, and in bulk it equalled two kidneys of ordinary dimensions; the transverse length being from seven to eight inches, and its perpendicular from three to four; its texture and consistence were quite normal; perhaps only a little gorged with blood. The two pelves were directed forwards, and not inwards as usual; there were two ureters which were dilated, equalling in dimensions the little finger. In short, in the present, as in most other cases of this disease, the pathology is most unsatisfactory; perhaps we should look not so much to the secreting organ, as to the pabulum of secretion, viz. the blood. Animal chemistry may in time elucidate the subject.—*Archives Générales.*

XXXI.

DOTHINENTERITE.

OUR readers are probably aware that this appellation has been given by M. Bretonneau and others, to the diseased states of the glandulæ Brunneri et Peyeri, which are the mucous follicles found on the inner coat of the intestines, chiefly of the small ones, and are arranged either in groups, or are solitary; hence they are also named congregatæ et solitariæ. In the duodenum they are very distinct, especially near the pylorus, and in the ileum towards its lower extremity. Some physicians have ventured so far as to attribute the proximate cause of typhus fever to ulceration of these glands; but this opinion is certainly erroneous, as we shall be satisfied by reporting a case or two.

Case 1. A man, aged 21, had been troubled for a few days with diarrhœa; suddenly all the symptoms of adynamic fever came on, viz. prostration, stupor, deafness, starting of the tendons, &c. &c., and he died on the 10th day after.

Dissection. Patches of redness on different portions of the stomach and intestines; here and there the mucous surface presented numerous small ulcerations; the glandulæ Brunneri were tumefied, encircled with a red areola; some of them already ulcerated, so as to expose the subjacent infiltrated cellular substance. Towards the cæcal end of the ilieum, numerous groups of distinctly projecting laminæ, which were hard, white, or slightly tinged with bile, and altogether resembling the crusts of some herpetic eruptions (dartres crustacées). These laminæ or crusts were easily removed, being attached only by very slender filaments to the enlarged orifices of the mucous glands, which, however, did not appear ulcerated, but only redder and more prominent than is natural. The ileo-cæcal valve was nearly destroyed by these crusts. In the large intestines many aphthous spots were found.

Case 2. Was very similar in symptoms to the preceding, but *no* dothinenterite existed. A man had for some time an apthous ulceration of the mouth, but most unexpectedly he sunk rapidly, in the course of one night, into a state of typhoid prostration; a profuse diarrhœa had also supervened, and he died two days after.

Dissection. Traces of extensive gastro-enteritic inflammation, especially in the jejunum and ileum, towards the cæcal end of which the redness became more and more intense. The large intestines were similarly, but in a much slighter degree affected; no mark of disease in either set of glands.

Remarks. The preceding case was one of extreme rapidity. M. Bretonneau has never found the morbid alterations of the glands earlier than on the fifth day of the dothinentiritic fever, and even at that period they were by no means much reddened or tumefied. It appears, therefore, that the worst, or adynamic cases of typhus, do not always, if ever, depend solely on any affection of the mucous intestinal glands; and the truth of this statement is still further confirmed by the fact, that these glands may be greatly diseased, and yet not give rise to any symptoms of fever, as in phthisis: we relate one case as it occurred at the same time that dothinenteritis existed in the hospital.

Case 3. A young girl died of phthisis; a diarrhœa had existed for some time.

Dissection. We need not specify the thoracic disease. The stomach and duodenum were normal; the rest of the small intestines presented the appearance of capillary injection, which was more distinct towards the lower extremity; the mucous glands were red, inflamed and prominent; near to the cæcal valve they were ulcerated.

General Observation. From the preceding cases, we infer that the only uniform and constant symptom of disease in the glands is an obstinate diarrhœa.—*Ibid.*

XXXII.

LARYNGEAL FISTULA, CURED BY A TALIACOTIAN OPERATION.

M. VELPEAU records an interesting case; it had existed for more than a year, and several surgeons, among whom was Dupuytren, had attempted in vain to heal it, by incising its edges and approximating them. A flap was dissected from the front of the neck, below the fistula, reflected upon itself upwards (so that the cutaneous surface was made the central or interior one), and fashioned into a plug or stopper, which was kept in its place by two needles and the twisted suture. The greater portion united, and one application afterwards of the cautery, to the part which did not heal, completed the cure.—*Ibid.*

XXXIII.

SYPHILIS, TREATED BY THE EXTERNAL USE ALONE OF MERCURY.

M. MALAPERT, a military surgeon, communicates the results of his experience, which, he states, is highly in favour of merely employing a strong solution of the corrosive sublimate, without any internal medicine. He has, in this manner cured chancres of the throat, lip, penis, anus, and legs, by using a lotion of 8 grains to an ounce of distilled water, and applied with a camel-hair pencil. Chronic buboes he blisters first, in order to remove the cuticle, and then he cauterizes the denuded surface with a solution of a scruple of the sublimate to the ounce of water.—*Révue. Med.*

We can confirm the accuracy of M. Malapert's remarks, by appealing to numerous cases of primary syphilis, which we have for several years past treated in the above way. The surface of the sore is rendered white on the application of the strong wash, and the surrounding skin is cauterized; the diseased action appears to be speedily changed, and we find, in the course of a few days, perhaps a much larger exposed surface, but certainly one that is much healthier, and disposed to cicatrize quickly, instead of the obstinately indolent base and callous edges, so characteristic of the chancre. Once or twice, we have discussed chronic glandular tumours by the topical use of the corrosive sublimate lotion.—REV.

XXXIV.

CANCER OF THE TONGUE, BY WHICH THE ORGAN WAS WHOLLY DESTROYED.

PROFESSOR DELPECH reported the following case.

A young man, aged 20, of a weak and irritable constitution, was the patient. At first, a pustule appeared on the left side of the tongue, midway between its edge and centre. Although its base was hard, and its edges were ragged, lunar caustic had been repeatedly applied; the ulceration increased and became more painful. In a short time, the cancerous mass attained the size of an orange; the mouth could not be closed, and the saliva dribbled from the lips. In this state Delpech saw him, and, as the tumor appeared to be circumscribed, and not blended with the substance of the tongue, he resolved to operate. He made a deep perpendicular crucial incision through its entire thickness, but not beyond its inferior margin or cyst, in order that the lingual and ascending pharyngeal arteries might not be cut; for, says Delpech,

the normal vessels, around a defined tumour, never pass through its envelope or cyst; it has vessels of its own, and these are separated from the vessels of the adjacent parts by the proper and generating envelope of the diseased growth. The operator then laid aside the knife, and, with his fingers, worked or scooped out the four parts of the tumour from the inner surface of the sac, without any hæmorrhage. The muscles of the tongue had been absorbed by the pressure of the mass, and only the point had been left; and this was joined to the inside of the mouth merely by the mucous membrane, in which ran the ranine vessels. The next object was to destroy the cyst: for this purpose the cautery was employed, the lingual arteries having been previously tied in the neck; the cautery was applied twice again, at the intervals of six and ten days. The cavity thus left would have admitted an orange; it healed up most favourably. On the 15th day after the operation, the patient could articulate some sounds, and in course of time he recovered his speech astonishingly well. The guttural and labial letters he could pronounce distinctly, but the lingual, such as L, R, S, T, feebly and incorrectly. The sounds formed from L appeared to be rendered more liquid, as in the word "Llorente" of the Spanish language, or in the French word "bataille;" the sounds of R were given in a lisping manner—those of S not well—but those of *Th* much better. The greatest difficulty was in articulating the sounds of T and D. The sense of taste was not much impaired; and, from the result of this case, it appears that, if any portion of the skin of the base of the tongue is saved, the gustatory power remains.—*Ibid.*

The apparent success of the preceding case reflects the highest honor on the boldness and skill of the distinguished surgeon.

XXXV.

On the Etiology of Cholera.*

I. "An Examination into the Etiology of Cholera, founded on the Phenomena of the Disease, as exhibited during its prevalence in Glasgow and suburbs," has been sent forth by Dr. Bryce, and a perusal of it induces us to lament that its author had not been "bred to the bar," for assuredly he would have proved to be one of its brightest ornaments, as far as the art of making "the worse appear the better cause," or rather of proving to a demonstration, that "black is white and white is no colour at all." He has gone so artfully and casuistically to work, that one would suppose, from the train of data which he first lays down, and from the candour of his arguments and deductions, in the beginning of the paper, he was a man in search of truth, and not enlisted under the banners of any party, in the controversy respecting the etiology of cholera; but a deeper acquaintance with his lucubrations, shows that he is the very champion of the ultra-contagionists!

We care little how many converts he may make in this cause, since we are perfectly convinced that, among those who have seen most of the epidemic, and who are most capable of forming a true estimate of its etiology, few indeed will come to the conclusions which Dr. Bryce has drawn. We shall give the DATA first, and then offer a few remarks on Dr. Bryce's inferences.

"The principal facts, connected with the phenomena of cholera, as these have been exhibited during its prevalence in this city, are,

1st. The disease was officially announced to exist in Glasgow on the 12th February; but it is certain that unequivocal cases occurred for some days prior to this date.

2d. Its commencement was not preceded, nor accompanied, by any sensible unusual constitution of the atmosphere, as regards temperature, moisture, or electricity.

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* Glasgow Journal, No. XIX. Aug. 1832.

3d. It augmented gradually until the sixth week of prevalence, when the weekly returns showed 140 cases. From this time it declined steadily till the sixteenth week, during which only 5 cases were reported, and at the end of which one case remained under treatment. Independent of any cause referrible to atmospheric intemperament, cases again multiplied rapidly to 120, the nineteenth week, since which time it has been gradually diminishing.

4th. *A very large proportion of the cases occurred in lanes, closes, and houses, remarkable for domestic and pulic filth.*

5. Of these cases, many occurred in the same dwelling, within one, two, or three days of each other.

6th. It has been observed, that several cases have followed one another in the same tenement, so long as one diseased remained in the tenement; and that the disease has disappeared immediately and effectually therein, on the temporary removal of the infected, and all the healthy persons, from the locality, and on employing various means of purifying the same.

7th. *The persons attacked in these localities, were for the most part, ill-fed, badly clothed, of dissipated habits, residing in densely crowded, imperfectly ventilated, dwellings.*

8th. Under the preceding circumstances, females formed a large majority of the cases, and of those, persons of irregular lives.

9th. Comparatively few instances of the disease happened, among the middle and upper ranks of the community, *and no example was reported in these ranks of a succession of cases in a family; even although members of the family attended, as nurses, on the patients; nor did any case occur of a child or young person having been seized.* During the second exacerberation of the disease, the exceptions to this, and the two preceding conditions, were more numerous.

10th. *Numerous examples have offered, where children have slept with infected parents, nurses with patients, without contamination, as well in the chamber where the disease occurred, as in hospitals.*

11th. The town's hospital was the only public institution in which it prevailed.*

12th. Many examples have occurred of persons being seized while occupied at public works; yet, in no instance did it prevail in any particular work, and several remained altogether exempt.

13th. Of 52 nurses employed, in succession, at the Albion Street Hospital, 8 took the disease, and of 5 at the Dalmarnock Road Hospital, 2.

14th. *No one of the several medical attendants at the cholera hospitals, nor, with one exception, any one of the district surgeons, or their pupils, has been affected with unequivocal symptoms of the disease.*†

15th. The disease did not advance in any particular direction, nor follow any regular or cognizable route.

16th. *Cases have appeared on the same day, in quarters of the town most widely apart, in dwellings the most dissimilar, and among individuals the most different in their habits of life.*

17th. *Districts of the city having the greatest intercourse with, and approximating closely to, each other, have exhibited the opposite states of great prevalence, and total exemption, and this, too, for considerable periods.*

18th. The disease appeared suddenly, and prevailed largely in the Gorbals, a quarter strikingly exemplifying the conditions last specified.‡

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* "Persons apparently healthy, removed from infected houses to places of refuge, have been subject to attacks at different periods, not more than three or four days after their removal. Five cases occurred in Bridewell, apparently under similar circumstances with those which happened in the Houses of Refuge."

† "At least 150 practitioners and students have attended on cases of cholera, yet, with the above exception, as far as is known, not one of them, nor of their households, was infected."

‡ "I have the satisfaction of stating, in

The author expends many arguments, and a good number of pages, to prove that cholera was unconnected with any particular state of atmosphere.

"Common experience and meteorological observations have proved, that, during the prevalence of cholera here, neither its increase nor decrease, its developement in one quarter and extinction in another, have been determined by, nor, in any observable manner, been dependent on, particular states of the atmosphere, as regards temperature, moisture, prevalence of winds in one quarter, storms, or calms. These are facts, in my opinion, irreconcilable with every explanation of the propagation of the disease by a general atmospheric influence."

We will not quarrel with the ingenious author on account of this conclusion, though we hold it to be rather unsafe to deny a general atmospheric influence, because we cannot prove, by chemistry, that there is some general morbific ingredient in the atmosphere.

The Doctor's theory is easily summed up. He maintains that the primary and essential cause of cholera is a specific contagion, generated in the human body—*but*, that this contagion can only be brought into operation in localities, where the air is corrupted by effluvia from the earth, or substances on the surface of the earth. He denies contingent contagion in fevers, from accummulation, &c., and considers influenza a contagious disease. The following short passage contains the pith of our author's doctrine.

"In a former paper in this Journal (for February), I endeavoured to show that the remote causes of fevers, and the laws of the propagation of contagion, may be reduced to a scheme conformable to the diversified properties of morbific agents (No. 17, p. 67.) According to the principles of etiology then proposed, it was argued, that the elements of decomposed organic matter form a compound miasm, which acts as the essential vehicle of the specific contagion of cholera;* in other words, that cholera can be progagated only through the medium of air rendered impure by putrid animal and vegetable exhalations."

Thus, then, vegeto-animal exhalations are as necessary for the developement of cholera as the specific miasm of contagion! The contagionists themselves will assure the Doctor, that the cholera has destroyed life in some of the most airy and cleanly parts of town or country. What! were Belgrave Square and Portland Place infested with putrid exhalations, when some of their fashionable inhabitants fell victims to cholera? Dr. Bryce affirms that these exhalations can never produce cholera without the specific contagion. Indeed; had he practised in tropical climates, he would have found the disease produced by these causes every year. Are the diseases described by Curtis, Paisley, and hundreds of others, half a century ago, to be struck out of the list and go for nothing? Did cholera never occur till 1817? And does not Dr. Bryce recollect, that what he calls cholera is only the highest grade of the disease, the infinitely greater number of cases being *bowel-complaints?* that these bowel-complaints shade off into a thousand other grades and forms of the same disorder, and arising from the same general cause? He tells us that—

"The principles embraced in the etiology here offered, are, that the living system under cholera eliminates an infectious poison; *that this poison cannot be extended nor reproduced in a pure air, or one impregnated simply with healthy human effluvia;* but in one rendered impure by putrescent organic exhalations, the same poison meets with that pollution, by the means of which its specific

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proof of the accuracy of the facts detailed here, that the manuscript was submitted to the inspection of Dr. Corkindale, the gentleman, from his official situation, best qualified to pronounce on its correctness; and that his opinion corroborated each particular of the above statement."

* "Plague, yellow fever, and certain species of dysentery were included in the same class."

power can alone be manifested; and that the body must be under the influence of this poison, in order to generate a similar source of infection."

To this we reply, that people have been affected by the epidemic, in all its forms, where there was nothing like impure air, in the sense here taken—consequently his hypothesis fails. But why waste words on a theory which includes typhus, yellow fever, and dysentery in the list of diseases which cannot be produced by any pollution of the atmosphere, unless there be present a specific contagious miasm secreted from the human body! Is Dr. Bryce in practice as a physician? We can hardly suppose that any man who has been conversant with hospital or private practice, could enunciate such doctrines. Dr. Bryce is more inclined to sophistry than candour. He dwells on the nurses that were affected in the hospitals; but makes no allusion to the immunity of the medical attendants. One observation convinces us that Dr. Bryce is either a superficial or a prejudiced thinker.

"Notwithstanding, says he, the great stress that some writers have placed on the influence which fear exerts in contributing to the propagation of the disease, my own experience, and it has been considerable, demonstrates to me in innumerable instances, that a more than Moslem indifference deadened a becoming sense of danger in this portion of the community. Prejudice and ignorance, fostered and strengthened by infamous publications, closed the minds of its victims to the remonstrances of medical men. It was vain to warn of danger, persons,

'————quos ille timorum
Maximus haud urget, lethi metus.'"

There cannot be a doubt that Dr. Bryce includes this journal in the proscribed list of "infamous publications," because we sought to dispel the alarm of contagion, and procure for the sick those attentions which the doctrine of contagion was so well calculated to prevent. Conscious, not only of our own good intentions, but of the truth and justice of our cause, we smile with contempt on the uncharitable insinuations, to say the least of them, contained in the above passage, referring to the experience of the profession, the question, whether or not FEAR is a strong predisposing, exciting, nay, a directly occasional cause of cholera, and the whole class of gastro-intestinal disorders.

We shall take leave of Dr. Bryce, by alluding to the sovereign contempt in which he appears to hold the *contingency* of contagion in cholera, or in other diseases. Yet, in page 293, he speaks of "the cholera miasm, whose activity, *if not existence even*, depends on an impure state of the air."

Again, he repeatedly alludes to the certain prevention of cholera by seclusion, or in other words, quarantine restrictions—and yet, in the page above quoted, he tells us that—"the *only* limit, therefore, to the diffusion of the contagious miasm of cholera, is the circulation of pure air." This is the identical doctrine which we have all along maintained—it is the doctrine of contingent contagion—it is simple and practicable—whereas, the clumsy hypothesis of "a *compound* miasm which acts as the essential *vehicle* of the specific *contagion* of cholera," is as unintelligible as it is unphilosophical. We congratulate the contagionists on the accession of such a hair-splitting ally as they have now found in the person of Dr. Bryce.

II. MR. WATT ON THE ORIGIN AND PROPAGATION OF CHOLERA IN GLASGOW.

THE distinguished Professor of Medical Jurisprudence, in Glasgow, has published a short paper in the same number of our contemporary on the Clyde, in which a very different view of the subject is taken. "The first case of cholera that occurred in the West of Scotland, was a boy named M'Millan, who was taken ill at church in Kirkintilloch, on Sunday, the 22d of January, and every pains was taken, no stone was left unturned to discover the contagious source in this case. Numerous were the conjectures, and not a few the positive assertions, of the exclusive and unlimited contagionists, *who almost entirely*

monopolized the field, and regarded as fools all who dared to doubt their doctrine, and believe that cholera might arise in a spontaneous manner, but Dr. Lawrie has proved, as far as negative proofs can prove, that no source of contagion existed, from which, by any possibility, the boy M'Millan could have received the disease. Dr. Lawrie's pamphlet also affords ample evidence, to prove that contagion, as an agent, had nothing to do with the propagation of the cholera, and Mr. J. Watt was also of decidedly the same opinion. The disease appeared in a particular district (Hill-head) of the village, and was confined to that district for thirty-one days, and although individuals actually labouring under the disease, were removed into houses in the centre of the village, and died there, not one of the inmates or attendants, in these houses, or neighbours who were in communication with the patients, or with them were affected."

When the disease broke out at Kirkintilloch, the Glasgow Board, a thorough scion from the first, or ultra-contagion Board of London, stationed agents at all the entries into the town to stop the *march* of the malady from Jessore to the Gorbals. The canals and rivers were all blocked up. The disease, however, broke out—but in none of the primary cases was there the least shadow of communication with "infected districts." The author goes on to detail a number of the first cases in Glasgow, proving the scattered, isolated, and spontaneous origin of the disease.

"It follows then from the history of these cases, that it is impossible to demonstrate the agency of a contagious or infectious principle in the production of the malignant cholera in Glasgow. There are not even the slightest grounds for supposing the existence of such agency. The disease arose spontaneously, that is, under the influence of epidemic causes."

But we shall pursue the subject no farther in this place. Dr. Bryce himself acknowledges, that a polluted atmosphere is essential to the propagation of cholera contagion (the only contagion, by the way, which requires this essential) and, if this be the case, it will require a cleverer man than the Doctor to prove, which of the two essential agents is the true cause of the disease.

XXXVI.

PROXIMATE CAUSE OF CHOLERA.

OUR readers are aware that we have characterized cholera as a serous hæmorrhage from the mucous membrane of the stomach and bowels, looking on the cramps, coldness, and other phenomena of collapse as consequent on the hæmorrhage. This idea is adopted by Dr. Lawrie, of the Albion Street Cholera Hospital in Glasgow, as will be seen in the following extract.

"*Proximate Cause.* In a report of this kind speculative opinions are inadmissible, but I think it fair to state a few facts which appear to me to bear on this part of the subject. Of all the patients admitted into Hospital there has not been one in whom the disease did not begin in the bowels and stomach. In the vast majority purging was either premonitory, or the first symptom. Some there were who said that nausea and vomiting first annoyed them, but all had purging early in the disease. In some there was no vomiting, in others no cramps, in a few the pulse, capillary circulation and respiration were good, but all, to a man, had a discharge of characteristic watery fluid from the bowels. So much am I convinced of this, that I now consider watery purging essential to cholera, and have no hesitation, in my own practice, in pronouncing any disease not cholera in which this symptom is absent. The purging is usually unattended by griping pains.

In every case which I have had an opportunity of watching from its commencement, the failure of the pulse, capillary circulation, and other symptoms of collapse, have been in marked proportion, to the amount of fluid

discharged, the rapidity of its discharge, and its approach to water in colour, consistence, and smell.

I know no symptoms by which a common diarrhœa or disordered stomach and bowels can be distinguished from the early stage of cholera. I visited a young woman, at three in the morning, who had discharged the contents of her stomach and bowels, she said, in consequence of eating too much pork at supper. Her voice, pulse, skin, and respiration were natural, and she said she was as well as ever she was in her life. Who could have said this is cholera? To guard against accidents I gave an emetic followed by an opiate with brandy, and left her, she said, quite well. Three hours after, during which interval the discharges continued, I found her voiceless and pulseless. Here the discharges are the primary disease, the asphyxia and cramps are secondary, and this my own experience would lead me to say, is universally true of cholera.

If the above be facts, what need is there to search for the proximate cause of cholera, in the ganglionic system, brain, heart, or lungs; the evidence of our senses points to the mucous membrane of the digestive system. I will not stop to enquire what part of this membrane is affected, but merely state that I believe that in this, as in every acute disease, the nerves of the injured organ sustain the first impression.

Are the following legitimate deductions from the facts stated? A morbid poison enters the system, impresses the nerves of the mucous membrane of the stomach and bowels, and forces the capillaries to discharge the serous portion of the blood and the salts which it holds in solution; the pulse fails because there is too little blood in the system; the lungs, because the thickened blood no longer finds its way into the capillaries of their air-cells; the skin becomes cold because respiration and capillary circulation are imperpect; and secretion ceases because the glands have no longer the 'materiel' on which to act. In a word, the serous discharges explain the whole subsequent train of symptoms, and the severity of the disease will, as I have already said, be in proportion to their amount, rapidity, and purity."

XXXVII.

OBSERVATIONS ON THE POWERS AND EFFECTS OF COLD, AS A CAUSE OF DISEASE, &c. &c. By Dr. J. CLENDINNING.

IN our valued and oldest contemporary, the Medical and Physical Journal, Dr. Clendinning has published a monograph on that popular and real cause of multiplied evils—COLD. Every medical practitioner is aware that nine-tenths of the diseases presented to his observation, are attributed by the sufferers to catching—"COLD"—and there must be some, nay, there must be much foundation in truth for so general a persuasion. From the cold wash of our first nurse, to the heats and chills of our juvenile sports, and unavoidable exertions of our riper years, the effects of cold, or rather of atmospherical transitions, thermometrical and hygrometrical, are daily conspicuous to the common as well as to the medical observer. It has been recorded by Dr. Bateman that, during the Winter of 1814, which was very severe, the number of patients at the Cary Street Dispensary exceeded by 700 the ordinary average in other years! Dr. Heberden also records the fact that, in January, 1795, the whole mortality of London, was *double* that of the succeeding January. We question if the redoubted cholera of January, 1832, has produced such a tremendous change in the balance of our final accounts with grim Death.

The author of this monograph, a gentleman of highly cultivated mind and excellent education, general as well as professional, has arranged his observations under six heads—definition of terms—morbific properties of cold—diseases of cold—principal forms of morbific cold—circumstances most favourable to the morbific action of cold—and lastly, the means of preventing diseases of cold.

These subjects, so clearly arranged, are scientifically treated, and ingeniously illustrated by Dr. Clendinning. We regret that, from the terse and didactic manner in which the talented author discusses each point, we are quite unable to attempt an analysis of the paper. We are therefore induced to insulate one or two propositions and give them in the writer's own language, as they will prove interesting in themselves, and afford a fair specimen of the whole performance, which we urgently recommend to the attention of our readers.

"FORMS OF COLD MOST DANGEROUS.

The principal and most active forms of morbific cold met with in practical life are three: *moist atmospheres*, *damp clothing*, and *currents of air*.

Moisture of itself is not injurious to health. Moist warm atmospheres are indifferent to the vigorous, and they are generally favourable to the weakly. *Wet* summers are healthful in this country, provided they are not cold; the summer of 1797 furnishes a very striking proof of this truth. 'From the middle of May it was,' says HEBERDEN, 'one of the wettest ever remembered, it was nevertheless in every respect a healthy year.' Not so, however, *wet cold* seasons. BATEMAN assures us 'that the successions of rains to heat' (i. e. of a cool or cold moisture to warmth,) 'is amongst the most active causes of disease of the chest and abdomen,' which are the most destructive complaints in this metropolis. 'A foggy atmosphere,' he again observes, 'acts much more injuriously than a clear (i. e. comparatively dry) one of equal cold. Indeed there is,' he assures us, 'no condition of the air so invariably pernicious, so chilling and oppressive to the organs of respiration, as that frequent combination of frost with fog in the metropolis.' Of the truth of the preceding observations of that judicious physician (Bateman), I have had frequent experience amongst the poor inhabitants of Westminster for the last three years, during which I have had considerable opportunities of watching the operation of weather and season.

The danger of inhabiting or sleeping in *damp apartments*, is proved by examples of daily occurrence in private life. The superior morbific activity of a *damp atmosphere* depends on its superior conductive power. A humid air absorbs free caloric with much greater avidity and rapidity than a dry.

Damp clothing is another active and dangerous form of cold. The mischievous energy of wet clothes is so well known, as to require no illustration. The great capacity of evaporating water for the matter of heat, is the cause. The frigorific power of damp clothing may be conceived from this consideration: that the only protection or antagonist influence that man requires to enable him to defy the summer fires of Sahara or South Carolina, is the power of cutaneous exhalation. Although inhaling and immersed for some time in an atmosphere exceeding very far the temperature of boiling water, the bakers' girls were found, by Reaumur, to have pertinaciously retained their normal heat. After twelve or fifteen minutes' immersion in an atmosphere many degrees above 212°, BLAGDEN, BANKES, DOBSON, and other experimenters, found their thermometrical heat little differing from that of ordinary health. Such is the frigorific power of perspiration, or, in other words, of evaporation from the surface.

But *currents of air*, perhaps, of all causes of diseases of cold, are the most active and extensively mischievous. *Damp clothes* may be avoided; *foggy atmospheres*, and extremely *humid cold winds*, are unknown in many seasons and climates: but *currents of air* must be encountered. The atmosphere is constantly in a state of agitation; its intestine and progressive motions, while, on the one hand, they promote our well-being by ventilation, endanger, on the other hand, our health and our existence by their refrigerant operation. The destructive power of exposure to cold winds without adequate protection, is strikingly illustrated by the narrative published by Dr. CURRIE, in the Philosophical Transactions for 1792. 'Of several individuals that clung to the wreck, two sat on the only part that was not submerged; of the others all were constantly immersed in the sea, most up to the shoul-

ders; three only perished, two of whom were generally out of the sea, but frequently overwhelmed by the surge, and at other times exposed to heavy showers of sleet and snow, and to a high and piercing wind.' Of these two, one died, after four hours' exposure; the second died three hours later, 'although a strong healthy man of twenty-eight, a native of Scotland, in the flower of life, early inured to cold and hardship, and very vigorous both in mind and body.' The third that perished had been a weakly man. The remaining eleven who had been more or less completely *submerged*, were taken from the wreck next day, after twenty-three hours' exposure, and recovered. The person amongst the whole who seemed to have suffered least was a negro: of the other survivors, several were by no means strong men, most of them had been inured to the warm climate of Carolina.' In the case of the first two that perished the morbific power of the 'high piercing wind' was aided no doubt very powerfully by evaporation. In Dr. Currie's account of his experiments on the cold bath, we have the following interesting illustration of the superior refrigerant power of wind or air in motion. After continuing in the water fifteen minutes, the subject of some of his trials exhibited 'little or no diminution of his heat in rising into the air in a perfect calm, though during a frost; while the like exposure in a second trial, under similar circumstances, but with a north-east wind blowing sharply, produced a rapid diminution (of animal heat), though the air was many degrees warmer' than in the preceding experiment.

I have above cited several examples of even death instantaneously produced by the chilling influence of a piercing north wind. Every valetudinarian is aware of the inconvenience and even danger of exposure to blasts from chinks and other apertures in rooms otherwise close.

Prevention of Diseases of Cold.

The remarks I have to make in this section will come under the head of *Clothing*, *Exercise*, *Internal heat*, or stimulating ingesta, and *Diaphoretic Means*, as hot diluents, bed-heat, &c.

Every considerable augmentation of refrigerant influence requires on the part of the subject exposed, proportionate precautionary means for the protection of health: these preventive measures must consist either of increased clothing or of the use of means capable of compensating for defect of personal coverings, by diminution of intrinsic organic susceptibility. The class of preventive means last alluded to, will be by and bye considered, under the heads of exercise and stimulating ingesta: at present I shall confine myself to the question of clothing.

Transition from a tranquil into an agitated or progressive atmosphere, as from indoors into the open air, from the inside of a stage coach to the outside, &c., is accompanied with a great increase of the refrigerant power, which the frame has to encounter, and will, in many instances, above all if moisture be present, require additional protective covering. When the exposure is but short, or the weather is fine, or the constitution vigorous, and reactive energy therefore ample, such precaution, no doubt, will generally be quite unnecessary: yet those compensative conditions must be often wanting in a greater or less degree, and exposure, therefore, not provided against by appropriate internal or external means, will often prove hazardous, and sometimes fatal. In how many cases has phthisis been traced to an indiscretion of the sort now alluded to; to a journey on the top of a stage-coach in bad weather, or by night with insufficient clothing, &c. In how many instances have youth and accomplishment, and loveliness, fallen victims to the noxious influence of cool, perhaps damp out-of-doors atmospheres in passing from one rout to another, or returning from scenes of splendid riot to domestic solitude and repose.

In passing from a state of activity or exertion to one of relative quietude, precautions are often required for security; such transitions occur when horse or foot exercise is

exchanged for riding in an open carriage, or gestation on the water, and obviously demand the like precautions with transitions from walking, running, &c., to sitting, lying down, &c. But of all conditions that require provident measures, that of sleep stands most in need of them. In that condition the calorific function is less excited, less exposed to incidental stimulation from physical agents, or moral impulses, or muscular exertion, than in any other. Less heat is evolved; the body is much more readily chilled, the cutaneous functions more easily disturbed, and every derangement of internal parts, producible by frigorific impressions on the skin is more promptly effected. In the state of sleep, it is therefore, if ever, necessary to guard against exposure to cool moisture, currents of cool air, and every other cause of diseases of cold. All this is very plain, and is generally known, and requires no further notice. Before quitting this topic, however, I would briefly enter my protest against the absurd and mischievous extreme to which many, perhaps most people, carry the use of woollen and other night clothing. It is common for females, in particular, who seldom, amongst the richer classes at least, know the comfort, the real luxury of woollen or chamois coverings for the shoulders, chest, feet, &c., and who wear below the knee, on the arms, upper part of the chest, neck, or head, either slight or no covering, to retire to sleep on beds of feathers, under half a dozen or more folds of one material or another, mostly woollen, and this in soft, nay even in summer weather, and with every avenue for fresh air, every door and window, closed, and bed-curtains perhaps drawn closely all around: from such violent transitions what wonder if inconvenience result! The sleep is more or less disturbed by dreams and feverish uneasiness; the strength is not properly recruited, and the sleeper awakes unnerved, languid, indolent, often hot or chilly, generally anorectic. Under such circumstances, a susceptibility of inconvenience and injury from cold, above the average, may reasonably be looked for, and will, I believe, seldom fail, if occasion offer, to shew itself. Nor is the relaxation attending long immersion in warm air the only disadvantage in such cases; for there is obviously the further one of long-continued respiration of an impure atmosphere to be taken into the account: a disadvantage of no trifling importance in the cases of such as retire early to small rooms, and emerge into daylight after protracted slumbers.

Another point in which many fail, is the adaptation of clothing to season, weather, &c. No one questions the propriety of such adaptation in the abstract; but the number of those that commit the grossest errors on this subject in practice is enormous. What can be more obvious than the temerity of wearing the same kind and quantity of clothing in the heats of summer and frosts of winter; yet there are not wanting in the very first rank of the medical profession persons chargeable with such imprudence. I recollect very well the substance of an argument I once had with a fellow-traveller, an Austrian cadet, on his way through mountains in mid-winter, *en voiture*, from Vienna to Laybach. He obviously suffered inconvenience from want of warmer clothing, yet would not admit the propriety of adding even a flannel vest to his wardrobe. He considered it, he told me, 'militärisch,' soldier-like, to dispense with woollen under-coverings. A like answer would no doubt be given by many defaulters on this side of the water. Ladies would hold it to be *feminine*, gentlemen, *manly*, &c., to dispense with the extra under-clothing proper for winter and cold weather. But indolence, temerity, and fine breeding, are bad protectives against inclement seasons.

Exercise. An observant individual can seldom fail to know when, from universal weakness or incidental exposure, he is in danger from external cold; and a provident man will easily, in general, foresee future exposure. When actually exposed, the great prophylactic is muscular exertion, and, if possible, locomotive exercise. RITTER's advice is excellent, when he recommends that we should counteract the chilling influence of a draught

or of a damp atmosphere, to which we are constrained to expose ourselves, by proportionably increased exercise in order that we may be enabled to compensate for the augmented expenditure of caloric by an increased evolution of it. The calorific power of general muscular exertion is such that, but for the antagonist frigorific power of cutaneous exhalation and vaporization, there can be no doubt that even moderate exercise would be incompatible with health, and that violent locomotive exertion would, in comparatively tranquil atmospheres at least, prove destructive of life. It is so great, that, duly persevered in, and aided by clothing sufficient to protect the skin and extremities from the immediate contact of an intensely cold air, it has been, on innumerable occasions, found sufficient to bear man harmless through the most formidable trials, as the narratives of Parry, Franklin, Scoresby, and many others, abundantly testify.

Respecting the use of *hot drinks* and *aliments at once nutritive and stimulant*, before and during exposure, little need be said. All experience is in their favour; every traveller on our stage-coaches knows the protecting power of warm tea and coffee, punch, &c.; there is even unequivocal experimental proof of the power of stimulant drinks to sustain the animal temperature under exposure. During my experiments on the cold bath, I found, in some trials with warm drinks and wine, (taken before immersion,) the sensation of cold little less lively indeed, and the access of shivering little retarded; but the pulse and heat under the tongue were much less reduced by the cold than in other trials made without such preparation. As a preparative, however, for protracted exposure to cold, &c., pure vinous liquors are obviously unsuitable means: the excitement they produce is transitory, and is followed by dangerous depression of calorific power: and their repeated and free use is, amongst other objections, liable to this, that it favours that somnolency which is one of the most perilous effects of cold. I have little doubt that the protective power of punch, negus, &c. is more owing to the hot water than to the pungent spirit.

The fourth division comprises the means of cutting short incipient diseases of cold. On the supervention of chilliness and other symptoms, effects of recent exposure to cold, such as slight headach, horripilation, dejection of spirits, hoarseness, slight sore throat, coryza, lachrymation, cold feet, anorexia, lumbar pains, &c., we should have immediate recourse to the shelter of a warm bed; all solid aliment should be withheld; our only ingesta should be warm diaphoretic drinks. Diluted vinous liquors taken warm, such as weak hot punch or negus, are often excellent diaphoretics in such cases. But, in general, the alcoholic ingredients may be safely dispensed with, and when the excitement is considerable and headach is present, it cannot, without rashness, be recommended. The preceding measures are usually sufficient, if early enough employed, to cut short incipient derangements from cold. Where irritation is considerable, which is indicated by flying pains in the back and limbs, lively sense of cold, smart shivering, &c., opiates had better be employed in addition to the means already mentioned: for this purpose Ritter highly extols a combination of opium and camphor, two or four grains of the latter with from the eighth to a fourth part of a grain of the former every second hour, until the horrors, headach, pains, &c. shall have vanished or greatly declined. I have no doubt of the utility of such a combination; but pure laudanum or opium combined with warm diluents will probably be found fully as efficient. Dover's powder is also an excellent remedy. Another remedy, at once efficient and agreeable, is the common effervescing draught, containing half a scruple of nitre, a drachm (more or less) of the compound tincture of camphor, and in some cases half a drachm or more of nitrous æther, and as much of Hippo wine, to be repeated every third, fourth, or sixth hour. Where the feeling of cold, as evidenced by horripilation, rigors, &c. is lively, warm bathing, local or general, followed up by some of the remedies just proposed, is very proper.

Prevention of disease is better than cure;

it implies a more masterly degree of skill and power in the prescriber, and a smaller expense of care and vital power on the part of the sick. In practical medicine the first indication in dignity as well as time, is prevention: in other words, the avoidance or counteraction, as far as possible, of morbific agencies; and when illness arrives, the employment, without loss of time, of the means best calculated to disperse the earlier groups of organic preternatural conditions or symptoms, and thus, by anticipation, get rid of the complications and difficulties so soon superinduced and accumulated upon primary simple and tractable derangements by the influence of sympathy and habit: with these views, I have thought it advisable to append to my observations on the morbid effects of cold, remarks on the circumstances that most favor the action of morbific cold, on the means best calculated to neutralize its agency, and on the remedies that should be employed after injurious exposure to prevent the establishment of any nosological effect or regular disease of cold: on the plan, as on the execution, it is the reader's province to decide."

The whole monograph which would have well deserved a place in the Cyclopædia of Practical Medicine, or in Dr. Copland's Dictionary, contains the most convincing proofs of the author's learning, talents, and discrimination.

XXXVIII.

On the Employment of Tepid Baths, combined with Cold Affusion in Cerebral Affections.

FIRST SERIES.

Case 1. Count B., of studious habits, experienced, very soon after having been engaged in intense thought on a subject which had quite absorbed his attention, an indescribable weariness and even exhaustion of mind, so that he was unable not only to continue his more reflective pursuits, but even to read any amusing book. Though he slept well, his mind did not recover itself; he applied to M. Recamier, who ordered tepid baths, with cool affusion on the head at the same moment. He speedily got well.

Case 2. Duke L. member of the Chamber of Peers, had suffered much fatigue from unremitting application to parliamentary offices; his friends feared that he would be obliged to withdraw himself for some time from his official duties. The baths with affusions were ordered, and his health became almost at once restored and vigorous.

Case 3. A member of the Chamber of Deputies had been long subject to headachs; he became one of the ministers of state; his headachs increased tenfold; he was advised to take the baths, as in the former cases, very regularly, and so soon and invigorating were their effects, that he himself ascribed his ability to remain in office to them, in a great measure.

SECOND SERIES.

Case 4. Mad. D., æt. 34, had suffered for several years from almost constant headachs, which she ascribed to anxiety of mind; the sight had also become painfully sensitive. Counter-irritants had been used with no benefit; but the bath with cool affusions speedily brought relief.

Case 5. Abbé G., aged 65, had been first afflicted with headachs, while pursuing his theological studies; their severity had gradually increased in consequence of great anxiety and distress; he had thus suffered from these, more or less for forty years; they were always exasperated by study; the sight and hearing had become excessively sensitive to their stimuli; and even the sense of touch had acquired a morbid acuteness; he was subject to spasms of the face and arms, and to general muscular uneasiness. Baths with the affusions were ordered: and having taken about twenty, he began to experience much relief; he continued their use for a long time, and was at length almost completely made well.

THIRD SERIES.

Case 6. A lady had been in the habit of taking anodynes every night, in consequence of a painful disease. Her mental faculties had become much impaired, and when M. Recamier visited her, she was in a semi-narcotic state. She was treated with the cold baths, with much temporary benefit, both to her bodily and mental health.

Case 7. A man, aged 34, was brought to the hospital in the following state; he was quite insensible, and could not be roused to answer questions, or to take notice of any thing; the pupils were dilated; the breathing and pulse natural; and he could move his limbs freely. There was no reason to believe that he was intoxicated, as he had spent the preceding night with his family, who stated that he had not drunk any spirits, &c. &c. By the use of the tepid bath, with cold affusions to the head at the same time, he was immediately well. M. Recamier designates such a case "nervous stupor," or "spontaneous narcotism."

FOURTH SERIES.

Case 8. A young lady had been much affected with the loss of an intimate friend; a headach, at first slight, and afterwards very severe, came on; leeches were applied behind the ears, but instead of relieving, they aggravated all the distress; the pulse became quickened, and the system feverish; the vision and hearing morbidly acute; and the whole surface of the skin, and also the organs of smell and of taste so exquisitely tender, that she complained of the coppery savour of the water, which was sprinkled on her head; the vessel in which the water was held, was of copper. On the first day of treatment, by Recamier, she had three baths with affusion; three also on the second; and two on the following three days; and then only one daily; their temperature varied from 73° to 77° F. that of the affusions was about 40° F. their duration was from 15 to 18 minutes. Good effects were speedily obvious, and a decided amendment appeared on the ninth day, from which time she rapidly recovered.

FIFTH SERIES.

Case 9. A young female was thrown into deep affliction by the death of her husband; she became quite lethargic, and continued so for 11 days, during which time she shewed no signs of consciousness, and appeared to be quite insensible to all outward impressions; the pulse was variable, but always quickened; food was introduced by the stomach-pump, but it was instantly rejected by vomiting; she had been blistered and well physiced, with no advantage. Dr. Recamier ordered a bath of 76° Fahr. combined with affusion of cooler water on the head. On being taken out of the bath, she appeared to have awoke from a deep sleep, and in some degree recognised her attendants, but took no notice of her late bereavement. The baths were continued for several days, till the catemina appeared and then they were discontinued; during the short interval of their presence the malady returned, but under a different form; instead of the uninterrupted lethargy, there was a double quotidian febrile paroxysm of a few hours' duration, during which the skin was so tender, that if merely touched convulsive movements of the limbs were induced. Subsequently cataleptic symptoms took the place of the preceding; and afterwards cardialgia and incessant vomiting were the most prominent distress. The state of the patient becoming thus more and more afflicted, recourse was again had to the baths, which were employed for about 15 or 20 minutes each time, and the cool affusion to the head for the last three or four minutes. This treatment was continued for a fortnight, and her health was then much benefitted. With the exception of a slight relapse, in consequence of the intermission of the bathing for a few days, the lady was eventually so restored to health, that the French reporter states that she was soon able to eat a "bifteack" of reasonable dimensions!

SIXTH SERIES.

Case 10. A young man, aged 22, of a healthy sanguineous temperament, had been for four years subject to monthly returns of a nervous paroxysm, whose most obvious symptoms were the following; ennui, melancholy, wish to weep, but he could not; excessive irascibility and obstinacy of temper; flatulency with borborygmi, and sense of constriction in the throat; then aberration of mind, piteous moanings, severe dyspnœa, and violent muscular movements. He was advised to take, for several days preceding the monthly paroxysm, several baths with affusions; and under this treatment alone, his health was re-established.

Observations on the preceding Cases.

The *first series* illustrates well the "malaise" which follows excessive mental application. It is not quite easy to designate this state of indisposition; it is not altogether a disease, and yet the patient is assuredly not in health; he is between the two, but nearer to the former; he has, as it were, come within the influence of the poison tree, although the air is not yet so venomous as to be mortal: or he may be compared to a man who is dizzy on the edge of a precipice, who has not yet lost his balance, but a moment longer and he falls head-long. [Our readers will call to mind our remarks on this subject in the introductory chapter "On the Wear and Tear of Life," in the "Change of Air."—Ed.]

In the *second series* we observe the symptoms of the malady somewhat aggravated; for in addition to general cerebral uneasiness, and to an inaptitude for mental exertion, the external senses have become disturbed; thus, the eye in one, the hearing in another, and in the third all the organs of perception may become the seat and cause of distress to the patient; this diversity can be accounted for only by a reference to an hereditary, or an accidental sensitiveness of the particular organ affected.

When the excitement of the brain is carried to a still greater extent, or when the constitution of a patient is such that the nervous energy is soon exhausted, a state of perfect stupor may be induced, as we find in the cases of the third series. The blindness from a dazzling light is an apt illustration of this law of life, and just as in this case, the eye is paralyzed for the time, so may the brain be overpowered by any excessive or protracted mental stimulus. But the degree of excitement does not necessarily nor uniformly cause a mere "spontaneous narcotism;" for not unfrequently the ganglionic system sympathises with the fatigued cerebro-spinal system; and hence we have the long and varied train of nervous affections of the functions of organic life superadded, viz. disorders of the respiration, circulation, digestion, and secretion; hence the cardialgia, and colic, cough, dyspnœa, palpitation, remittent febrile paroxysm, and so forth, and it is obvious that one treatment is applicable to all, namely, the treatment of the original complaint, which is the "fons totius mali." Case 9, is an example of the foregoing remark. It is of great importance to remember, that whenever the functions of the ganglionic nerves, namely, those of organic life, are once drawn into the morbid association, the obstinacy of the malady is increased ten-fold; for it is a law of living bodies, that in proportion as a part is more or less easily affected with disease, so it may be more or less speedily recovered from it. Hence the necessity of steadfastly persevering in the use of the treatment above recommended for several months, at least in obdurate and protracted cases. Lastly, we advert to the good effects of the same treatment in cases of simple hysteria, or of neurosis of any particular organ, as of the lungs, by which the process of sanguification is disturbed; or of the heart, giving rise to most distressing palpitations; or of the alimentary canal, occasioning dyspepsia, hypochondriasis, &c. &c. Medical men are sometimes perplexed, when, after the violence of a fever has been subdued by active antiphlogistic means, a state of almost con-

stant delirium, and of extreme sensitiveness of the eye and of the ear (so that no light or noise can be tolerated) supervene: the patient is also at the same time exceedingly irascible and fretful;—all depletory means aggravate these symptoms, and no treatment is so soothing as by the use of the tepid baths with cold affusion once or twice a day. *Revue Médicale.*

Remarks. We can add our most unqualified testimony in favour of the truth of the foregoing details; and, indeed, the practice of every medical man can no doubt do the same. The catalogue of cases, or of the series of cases may be much enlarged; but we shall only allude to one in addition; namely, the state of health predisposing and preliminary to an attack of hydrocephalus. By keeping the head of the child constantly wet with cold water, night and day, the disease may very often be warded off.—ED.

XXXIX.

VAGINAL CYSTOCELE.

THE bladder may be protruded as a hernial tumor in three different places; into the groin, at the crural arch—and into the perinæum (in men); and the vagina and perinæum in women. It is obvious that a perineal cystocele, in females, can be only an aggravated case of vaginal cystocele, in the same manner as a scrotal hernia is only an aggravated bubonocele.

Mad. M. aged 40, was mother of four children, all of whom had been born without difficulty; her last confinement happened four years ago, soon after which time she began to experience dysuria, pains in the renal region, and a feeling of severe dragging at the hypogastrium. Various opinions were formed of her case, some considering it as calculus, or chronic cystitis—others as disease of the womb, &c. &c. She experienced no relief from any treatment. After 3½ years of suffering she applied to Dr. Rognetta; her symptoms at the time were—an almost constant desire to void urine, which passed only in drops, and with dreadful straining—frequent dragging pains in the epigastrium, and extending over all the abdomen—nausea and retching—cold sweats, and general decay of strength. At first Dr. R. suspected cancer of the womb; but he found that, upon introducing his finger into the vagina, although there was a fleshy tumor which obstructed the entrance, and which he took to be the uterus, he could gradually insert it deeper, till he detected the os tincæ high up, and quite healthy. Upon ocular examination, the tumor was as large as the fist, of a red color, smooth, and glistening; it fluctuated on pressure, and a desire to make urine was thus induced. A female catheter could not be passed, in consequence of the displacement of the urethra, whose course was now from above downwards; a male cathether was introduced, with the convexity turned towards the abdomen, and a large quantity of water drawn off; immediately the vaginal tumor diminished, and the patient was in comparative ease; her distress returned when the water re-accumulated. All ordinary pessaries failed in supporting the protrusion; but, fortunately, Dr. R. succeeded by using a gum-elastic bottle, and rolling it into a cylindrical form; it was secured by tapes to the "ceinture" of the patient.

Remarks. In the history of such a case, it is of importance to attend to the symptoms of distress in the epigastrium, and feeling of painful dragging from the stomach downwards; as they probably arise from a portion of gut, or of omentum, being drawn down with the displaced bladder, and thus occasioning a real *dragging* of the parts: When, therefore, a patient complains of such a malady, our attention should be awakened to the possibility of some hernial protrusion. Baron Larrey mentions the following very interesting case in illustration.

On the evening after undergoing lithotomy, a patient had all the symptoms of a strangulated rupture. The Baron examined

the wound, and found a swelling, which protruded outwardly between its lips, and which he ascertained to be formed by a noose of intestine, or of omentum, having forced a portion of the bladder before it; he immediately reduced it, and retained it in place by using an empty bladder, which he introduced to the bottom of the wound, and which he then distended with air. The patient did well.—*Ibid.*

XL.

CASE OF ANENCEPHALISM.

A POOR woman, aged 30, mother of two children, was delivered of a third in April, 1830; it was male and anencephalic, and yet it lived for 32 hours. Since that period, the woman had dreaded being again pregnant, as "she was certain (she said) that she should bear nothing but monsters." On 4th July of next year, she was delivered of a female child; and this also was anencephalic. It lived for 20 hours. The respirations were feeble and distressing, and, soon after birth, the face and body became of a blue colour, which deepened more and more to a blackish hue. Its size was that of a full-grown and healthy child. The shape of the head was most extraordinary; the level of its vertex was on a line with the root of the nose—its dimensions were much contracted, as well from side to side as from before backwards; the face was fully formed, but the forehead and eyebrows were wanting: the eyes were startingly projecting, in consequence of the deficiency of the upper part of its orbit, and were situated at the most elevated points of the head; the inclination of the face was sloping backwards, so that the facial angle was much smaller than usual. On a careful examination after death, the whole of the vault of the skull was found wanting, and the open cavity was bounded by a rim, formed by the frontal, parietal, and occipital bones; the basis of the cranium was much contracted in size in all its dimensions; the posterior wall was inclined forwards, so that the os occipitis appeared to rise vertically, in a line with the margin of the foramen magnum, and hence there were, in reality, no occipital fossæ; the anterior fossæ were scarcely distinguishable; there was no trace of the cribriform plate of the ethmoid bone; the os frontis consisted of two small pieces, joined to each other in the median line; and each piece consisted of two laminæ, one of which represented the orbital plate—the other the globular portion; the foramen opticum of the sphenoid was wanting; the petrous process of the temporal was fully formed, while the squamous plate was very imperfect; the parietal bones, in shape and appearance, were like a narrow band or rim along the upper egde of the temporal bones; the basilar process was placed vertically. All the vertebræ were perfect. The scalp was covered with long hair, and extended somewhat beyond the bony margin of the cranium, and then became suddenly continuous with a red-coloured, thin membrane, which supplied the place of the vertex; it adhered to the subjacent parts, and had much the appearance of a cicatrix. On dissecting this off, a soft tumour, of the size of a walnut, and of a fibro-cellular tissue, without any trace of cerebral substance, was found to occupy the central part of the cranium; it adhered strongly to the dura mater in all directions: the cerebrum, cerebellum, and tuber annulare were quite deficient; the upper end of the medulla oblongata was to be seen, and it presented the appearance of having been cut from the tuber; it had no connexion with the fibrous substance described above. The spinal marrow was also quite normal. There was no trace of the optic and olfactory nerves in the cranium: in the orbit, the former was found, but very small, flattened, and reduced to an empty neurilema—posteriorly, it was lost in the dura mater; the eyes were large, and the retina perfectly developed. There was no trace of any of the cerebral nerves within the cranium, except of the trigemini, which appeared to proceed from a plexiform ganglion, situated in the fibrous mass; and, as this substance was infiltrated

with blood, the nerves were with difficulty traced. The facial and auditory nerves were not attached to the medula oblongata, but lay loose and unattached in the cavity of the cranium; on the outside of the cranium they seemed quite healthy; the auditory organs were fully formed. The spinal nerves were all normal in structure and arrangement. The carotid arteries were very small, and terminated in the fibrous mass; the vertebral were shrivelled to mere threads. Lungs nearly healthy; the ductus arteriosus and the foramen ovale were quite open. The abdominal viscera were perfect; meconium was found in the large intestines.

Remarks. The above case illustrates well, that a fœtus may live in utero, attain its full growth, and even breathe after birth for some hours, although the cerebrum, cerebellum, and pons varolii are absent; and examples are on record, in which not only these, but also the entire length of the spinal cord have been deficient, and yet the rest of the body has not suffered in development. We see that respiration is independent, at least for some time, on the brain; when, however, medula oblongata is also wanting, the children exhibit signs of life only at the moment of birth, and never breathe; the duration of life, in all anencephalic cases, appearing to be inversely proportionate to the extent of deficiency in the great centres of the nervous system. Various conjectures on the causes of anencephalism have, at different times, been proposed. It has been attributed to a very early hydrocephalus, or to an inflammation of the nervous substance and of its membranes, by M. Blandin; but where are the pretexts for such ideas? Others, as M. G. St. Hilare, more cautious, have not advanced farther than to suppose that, at some period of fœtal life, the developement of the brain was "*somehow*" suddenly arrested, while other organs were gradually unfolded to maturity: but before admitting even this supposition, let us inquire whether the traces of brain, when these do exist, at all resemble the appearance of the organ at any period of the fœtal life; for if we say that the growth was checked at some time or another, it is but fair to presume, that there should be vestiges of its "*then*" developement at the time supposed. Now, passing over those cases, in which not a trace of the cerebral mass is to be found, can we reasonably compare the fibrous mass, in the above case, to the brain, as it naturally is in any period of embryotic life? Assuredly not; and, therefore, we are forced to refuse our assent to the hypothesis of simply arrested developement. We should rather say that there has been a destruction or degeneration of the parts; but how this has been effected, or to what cause it is owing, remains a mystery. It may be thus seen that we admit the opinion, that the embryo contains, at the first moment of its existence, the bases or elements of all its various parts and organs; that these organs are, therefore, only developed, and not formed in succession, and that, originally, they are invariably regular and normal; and, hence, that monstrosities are "acquired" during the early stages of uterine life: (what are the grounds of such belief we know not.—ED.)

Mr. Serres has advanced the opinion, that the developement of any part is dependent upon its supply of blood, and, therefore on the size and number of its arteries; and that, therefore, when these are small and scanty, the part necessarily withers; but, in answer, we ask for some proof. The reverse of the position may be equally true, viz. that the decay or absence of the organ dispenses with the supply of blood. Indeed, the circumstance of the entire upper part of the cranium being deficient, is adverse, one should think, alike to every theory we have mentioned; and it appears that the complete skull is not a necessary and original elementary structure, but is formed for the purpose of protecting its contents, on which it is moulded. In one case, all the anterior and middle portions, even of the basis, were much contracted, for there was no brain to occupy them. M. Breschet, in the article "Anencephalie," *Dict. de Med.*, is in error, when he states that this

monstrosity is always associated with spina bifida, for the spinal column was complete in the example we have detailed; and his generalizing assertion, that the imperfections of developement are always more marked in the posterior, than in the anterior parts of the cranium, is refuted at the same time; indeed the very reverse held true as above stated. When the whole encephalon is wanting, and the spinal marrow begins at the foramen magnum, or lower down, we find that there is no cranial cavity whatsoever; the occipital bone is generally cleft in the median line, so that the foramen is not closed behind, and the upper cervical vertebræ are imperfect and open;—here then, we have further proofs of the osseous structure being subordinate to, and dependent upon, the soft viscera; the rudiments of the bones are probably never wanting; and the pithy observation of Hilaire is correct—"un os ne rétrograde jamais jusqu'a zéro d'existence."

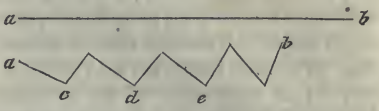
We have already stated that the cerebral nerves, with the exception of the optic, were perfectly and normally developed, on the outside of the cranium. It is not correct, therefore, to say that they arise from the brain; for it appears that they are formed with the organs to which they are subservient, independently of the presence of any central nervous mass. What was singularly interesting, was the discovery of the retina being perfect, while the optic nerve was wasted, or rather did not exist at all.

We ought to have mentioned that the supra-renal glands were wanting; Meckel says that they are always so in anencephalic children.—*Ibid.*

XLI.

On Muscular Contractions, and Animal Electricity.

The change which takes place in a muscular fibre at the moment of contraction, consists in its assuming a zig-zag flexuosity, and is best illustrated by the following diagram, which at the same time points out the amount of shortening.



This may be stated to be nearly one-fourth, or 0.23. The above appearance is most readily detected by submitting a very delicate muscle, as the sterno-pubic of a frog, to a microscope; and at the same time we may observe, that the summits of the angles, *c*, *d*, *e*, correspond precisely to the junction of the minute nervous filament, which, when the muscle is relaxed; ran parallel to each other, and perpendicular to the muscular fibres. Admitting the correctness of this opinion, it will easily be conceived that the living muscle is really a galvanometer, and one too of extraordinary sensibility. In all cases, where muscular contractions are produced, there also exists a developement of electricity. For the purpose of displaying this, let two similar platina wires be fitted to the ends of the branches of a galvanometer; let one of them be plunged into the muscles of a frog, and let the nerves of the animal be touched with the other, heated to redness; the contractions will be strong, and the deviation of the needle very sensible.

We have ascertained by experiment, that when two living animal substances are pressed together, however slightly, they acquire opposite states of electricity. It is sufficient for two insulated persons to touch hands, and then withdraw from the contact; to develope electricity sufficient to affect the electroscope of Caulomb.

The insulation of the nervous fibres is effected by the abundant fatty matter which surround them—for the discovery of this we are indebted to Vauquelin, who has shewn that it envelopes each of the fibres, and does not permit the electric fluid to pass from one to the other.

It is a subject of curious investigation to try to explain how some secretions, as the milk, chyle, urine, and the sweat are acid;

while others, as the saliva, bile, &c. are strongly alkaline. The fluid from which they are all derived, namely, the blood, contains pure caustic soda, in sufficient quantity to impart to it manifest alkaline properties. If we seek among the facts of chemistry for an explanation of this difference between the constitution of the blood, and that of the fluids secreted from it, we may soon be convinced that the action of the voltaic pile is the only one which approaches to it. Moreover it appears possible, to imitate artificially the principal conditions of the secretions, and to separate from the blood by means of the pile, a liquid resembling milk, and from the food itself, a material resembling chyle. We cannot quit this most interesting subject without remarking, that if muscular motion and the secretions may be regarded as owing to electrical movements, the production of animal heat can only be suitably explained in the same manner; for it is known to electricians that the conducting wire acquires considerable heat during the action of the pile. M. de la Rive, the learned professor of chemistry at Geneva, was the first to seize the happy idea of referring the phenomena of animal heat to electric agency.

Dr. Edwards adduces some very ingenious observations in favor of the electrical theory of nervous actions; they are contained in a paper which was read before the Royal Academy of Sciences of Paris, in May, 1825, on "muscular contractions produced by bringing a solid body into contact with a nerve, without a galvanic circuit." The experiments consisted in passing a solid body along an exposed nerve, in the same manner in which we pass a magnet along a bar of steel which we wish to magnetise. In doing so, our object is not to act by pressure, or mechanical irritation, but rather to touch lightly various contiguous portions of the nerve successively; the sciatic nerve of a frog, which had been pithed, was exposed from $\frac{1}{4}$ to $\frac{1}{2}$ of an inch, and a slip of oiled silk passed under it, to bring it better into view, and to render it more tense; the nerve was then gently touched with a slender rod of silver, and immediately the muscles were thrown into contractions; the same effects were produced when rods of copper, zinc, lead, iron, gold, tin, and platina, and even of glass and horn, were used. It is proper, however, to state that iron and zinc rods caused far less vigorous movements than other metals; and that indeed the movements varied with the nature of the rod employed; but no satisfactory scale of the powers could be established. The question to determine is, whether the muscular contractions are attributable to electricity, (which we know is developed every time one body exerts a mechanical action on another,) or to some other agent, perhaps unknown hitherto to us? If it be electricity, we may presume that we shall be able to vary the energy of the contractions, according as the nerve is made a more or less perfect conductor;—in its natural condition, lying among muscles, which are excellent conductors, a great quantity of the electricity is lost and expended; but if we place under the nerve a non-conducting body, as oiled silk, the whole of the electricity will be concentrated in the nerve. This precaution is had recourse to also in galvanic experiments, when it is wished to excite muscular contractions by very small quantities of electricity, such, for instance, as are produced by the mere contact of two metals. The above fact is therefore a convincing proof that the insulation of a nerve renders it much more energetically susceptible; so that when a circuit is established by means of two different metals, very obvious movements of the muscles may be produced, where, had the nerve been left in situ, it would have been insensible to all stimuli. Now similar phenomena occur in the experiments in which the nerve is merely touched with a rod, as above detailed; and it was found that the effects were scarcely notable if the nerve had not been previously insulated. After having in vain attempted to excite contractions by touching the nerve while resting on muscle, Dr. Edwards found that they might still be induced if the oiled silk were placed beneath

the exposed nerve; and he was able to cause them alternately to appear and to cease by employing at one time a non-conductor, and at other times a conductor below the nerve. It was observed that the contractions were most readily induced by a quick and light touch of the nerve with the rod. On the whole, Dr. E. concludes that the contractions in the preceding experiments were dependent on electricity.—*Dr. Edwards on Life.*

XLII.

ON THE PHÆNOMENA TO WHICH THE NAMES "ENDOSMOSIS" AND "EXOSMOSIS" HAVE BEEN GIVEN BY DUTROCHET.

WE may premise that the above cabalistical terms are equivalent to impulsion and expulsion, or intrusion or extrusion; they are derived from the Greek "ω'θέω" pello.

"If we take a membranous sac or cavity, as for example, the cœcum of a fowl, or the air-bladder of a fish, and having put a small quantity of fresh milk into it, and secured the mouth by a ligature, we shall find on immersing this sac in water, that in the course of a few hours it will become quite full, and eventually turgid. This turgidity is not permanent, and after a few hours more have elapsed, the sac will again be flaccid. If the sac be now opened, it will be found to contain curdled and putrid milk; if the sac be cleansed from this offensive substance, and again partially filled with milk and immersed in water, we shall find a repetition of the phænomena, but the sac will neither become so turgid nor so long remain full as in the first instance; this may be repeated several times, but with diminished effect. It does not make any sensible difference to the experiment, whether the sac be inverted or not, or whether the mucous or peritoneal coat be removed. If instead of milk some other fluid be employed, similar phenomena may be observed, but by no means in the same degree in all; in fact, very striking differences may be observed, depending on the nature of the fluids within and without the sac, as well as upon the texture through which they have to pass."

Dutrochet has invented an instrument to which he has given the name of "Endosmometer;" by means of which he discovered that different fluids possess very different powers of inducing endosmosis; it was greater in dense than in thin fluids. Solutions of gum and sugar have the property in a very marked degree; so much so, that the former caused an elevation in a column of quicksilver of 45 inches and nine lines; saline and alkaline solutions are also endosmodic; most of the acids are very feebly so; the sulphuric, however, is a striking exception, and seems rather to have an exosmodic quality. Whenever any animal fluids become putrescent, they are opposed to endosmosis; and Dutrochet discovered that liquids which contained sulphuretted-hydrogen are, like sulphuric acid, inimical to it. There is very considerable diversity in the rapidity and force of endosmosis, according to the fluid which is employed.

It may be supposed, that the phenomena of endosmosis are referable to imbibition, transudation, or capillary attraction; but if so, then the more porous the substance which is employed to close the funnel of the endosmometer is, the more energetic should be the transmission of fluid through it; but this is not the case.

"Various materials, besides the membranous parts of animals and vegetables, were employed to close the funnel of the endosmometer, such as very thin plates of sand-stone, plaster of Paris, lime-stone, burnt slate, and the biscuit of earthenware; with some of these substances, the endosmosis was carried on with considerable energy, whilst with others, it seemed totally inactive."

And again:—

"Very little, if any, endosmosis was observed to take place through plates of sand-stone, whether the most porous, or the least porous were employed, but the presence of

a little ferruginous matter in one of the specimens was observed to favour it."

The septa of lime-stone, though sufficiently porous to allow the passage of fluids, and to exert a capillary attraction upon them, were found to be extremely unfriendly to endosmosis; but those of burnt slate and baked clays, though but little promising, exhibited it strongly. The following particulars of the changes which are going on during the process are very interesting.

"As respects the fluid, in which the reservoir of the endosmometer is immersed, it would seem, that there is no fluid more favourable to endosmosis, and at the same time so convenient for experiment, as pure water. The examination of this fluid, after it had been for some time employed, afforded convincing evidence of a very curious fact. Notwithstanding the copious and forcible transmission of water through the septum, occasioning in some instances an elevation of several inches in the tube, there is likewise, at the same time, a transmission of fluid in an opposite direction; thus, if a solution of muriate of soda be employed in the endosmometer, it will not be long before traces of this salt will be found in the water surrounding the reservoir of the instrument."

The applications of the principle of endosmodic operation which Dutrochet has hitherto made, relate chiefly to vegetables; he attributes the ascent of the sap to a structure situated near the junction of the root and the stalk, consisting of minute cells, in which a powerful endosmosis is exerted. The forcible ejection of the juice from the fruit of the elasterium may be due to the same cause, also the different directions which the roots and stalks of different plants take; the curious phenomena presented by the balsimina impatiens, the hædysarum girans, and mimosa, &c. &c. It is very probable that the same agencies may be actively concerned in many of the functions of animal life, both in health and disease; perhaps, for example, the enormous enuresis which attends the generation of sugar in the kidneys in diabetes, may be partly, at least, explicable in this way, as we have already seen that a solution of sugar is one of the most favourable fluids for endosmodic action.—*Dr. Hodgkin, in Notes to Dr. Edwards on Life.*

XLIII.

ANATOMY AND USES OF THE LYMPHATICS.

WEPFER states that the lymphatics of the broad ligaments of the uterus communicate with the hypogastric veins; Steno traced many to the axillary, jugular, and cavæ veins; Lobstein those of the spleen to the vena portæ. Seiler often saw mercury pass into the veins from the lymphatics, and this was almost always the case when the mesenteric glands were injected. That the lymphatics communicate also with the internal surfaces of various cavities and canals, and with the arteries, is proved by Seiler who has injected the former from the duct of the pancreas, of the parotid, and vas deferens; by Walter, from the lactiferous tubes; by Lippi, from the gall-bladder, from the arterial system, and from the surfaces of several membranes. This latter author has published a most interesting work, entitled "Illustrazioni Fisiologiche e Patolgiche del Systema Linfatico-Chilifero mediante la scoperta di un gran numero di communicazioni de esso col venoso." He is a strenuous advocate in favour of exclusive absorption by the lymphatics, and attributes the existence of foreign matters in the veins to their communications with these vessels. It may be objected to many of the experiments of Majendie, that the induction of the peculiar effects of poison is not a conclusive proof of its absorption.

"The strongest confirmation of this objection, is furnished by the researches of my friends, Dr. Addison and J. Morgan, respecting the operation of poisons on the living body. They have clearly proved, that the effects of poisons do not depend on the contamination of the fluids circulating through

the system. A connexion having been established between two dogs, by means of the large vessels of their necks, the blood from the one expiring under the influence of a poison, with which it had been inoculated, was transmitted with impunity into the second. To render this trial as complete as possible, a mutual interchange of blood was established, the trunk of the carotid of one dog supplying the branches of the other, and the jugular vein of one discharging itself into the heart of the other. The animal which had not been wounded with the poison, exhibited not the least indication of its influence."

Some physiologists have certainly erred in supposing that imbibition and transudation are not much modified by the vital power.

"It is well known that those animals which secrete the most deadly poisons, are by no means exempt from the fatal effects which follow the introduction of the poison into a wound. For example, the sting of the scorpion is as fatal to his own, as to any other species; yet, each individual carries his reservoir of poison about with him with perfect impunity, although it is only cut off from the rest of his system by a membranous sac. The existence of many partial dropsies may be urged as another illustration of the limitation which life sets to transudation and imbibition. It is well known that during life, the large intestines are often distended with sulphuretted hydrogen, without the neighbouring parts appearing to suffer from its proximity; yet, after death, a short time is sufficient for these tissues to acquire, to a considerable depth, the peculiar leaden hue which it imparts. The yellow tinge, which the parts in the neighbourhood of the gall-bladder commonly receive after death, has long been pointed out as a striking example of the difference between dead and living matter, with respect to imbibition."—*Dr. Hodgkin, ibid.*

XLIV.

TRANSMISSIBILITY OF DISEASES ALONG AN ELECTRIC WIRE.

THE following extract is taken from the appendix to Dr. Hodgkin's translation of Dr. Edwards' work on Life. As a matter of course, we are merely reporters, not vouchers, of the occurrences.—ED.

"Another case of ague, which had lasted four months, and obstinately resisted bark, arsenic, and other medicines, was quickly cured by a few applications of electricity. The most extraordinary circumstance remains to be mentioned. P. Smith himself had held the ball, with which he took sparks from his first patient, during the hot stage. In the same evening, he found himself unwell; but had no suspicion of the nature of his complaint, until the recurrence of the paroxysm convinced him that he had become the subject of ague. He allowed these to recur to the seventh time, before he attempted the cure by electricity, which was speedily effected, being the second case already alluded to. As he had never been the subject of ague, and had not been more than usually exposed to causes calculated to give rise to it, he felt persuaded that it had been communicated to him by electricity from his former patient.

In order to ascertain this, he was desirous of trying experiments on some persons labouring under a disease which was inflammatory, but not considered infectious; he, therefore, had one of his men vaccinated. On the seventh day, the man was placed on the insulating stool, and connected with the positive conductor; a small incision was made with a lancet in the pustule, and an incision was also made in the arm of a lad with a *new* lancet; a wire four inches long was passed through a glass tube, one end of which touched the pustule on the man's arm, and the other the incision on the boy's arm—the electrification was continued for eight minutes, when the boy was removed. His arm was daily examined, and it was found, that he was as completely vaccinated

by electricity as any person could be by the usual mode. My friend afterwards endeavoured to communicate the virus to two girls, by passing the electrical fluid from the pustule on the boy's arm, who had been vaccinated by electricity, to incisions made in theirs. For three days the medical gentleman supposed it had taken effect, but, on the fourth day, all appearances of vaccination died away. These girls were, however, afterwards vaccinated in the usual way in four places, two of which died away, and the other two took but very slightly. My friend Charles Woodward afterwards repeated this experiment upon an infant, the child of one of his friends, but with this difference, that he did not allow the conducting wire to come in contact with the child's arm. The electric fluid was consequently transmitted in the form of small sparks. The disturbance which these produced, though trivial, prevented the application from being prolonged for the full time, which my friend would have wished; inflammation however succeeded, and, until the sixth day, was such as to induce the medical attendant to believe, that the vaccination had been complete; from that day, however, the pustule died away."

XLV.

CHOLERA IN SCOTLAND.

AT a numerously attended PUBLIC MEETING of the MEDICAL GENTLEMEN of Dumfries, held in the Council Chamber on Thursday, the 18th October, 1832, ARCHIBALD BLACKLOCK, Esq. Surgeon, in the Chair,—It was moved by Dr. Ross JAMESON, seconded by Mr. CHARLES BELL, Surgeon, and carried by a majority of 11 to 1:—

That it is the imperative duty of the medical men, both resident and non-resident, who have been engaged in the treatment of the malignant or Asiatic Cholera, since it appeared in Dumfries, to declare to the public that the rise and progress of the Pestilence here, in their opinion, were quite independent of, and unconnected with, human contagion or infection; and further, that from what they have observed they do not consider it capable of being conveyed from one individual to another.

ARCHD. BLACKLOCK, Surg.
T. ROSS JAMESON, M.D. Sec.

MEETING OF THE MEDICAL FACULTY IN DUMFRIES.

In pursuance of the terms of a Requisition, a very considerable majority of the Medical Men of Dumfries, assembled on Tuesday last, the 18th, to discuss the important question—"Whether or not Cholera has been contagious in Dumfries." We observed besides, that several Members of the Board of Health, and others of our townsmen were present.

Upon the motion of Dr. GRIEVE, seconded by Mr. M'LAUGHLAN, surgeon, ARCHIBALD BLACKLOCK, Esq. surgeon, was called to the Chair.

The Chairman said it would be superfluous for him to make any remarks on the vast importance of the question which they met to discuss, and, if possible, to determine—namely, Whether the disease termed Cholera, which has so fearfully prevailed, of late, in Dumfries and Maxwelltown, and hurried some hundreds of our fellow-creatures to the grave, and laid prostrate, for a time, as many more, be of a Contagious nature? They were all, he said, well acquainted with the history of that extraordinary disease, and the great variety of opinions which had been offered concerning it elsewhere. But in judging of the nature of the epidemic as it had appeared here, he thought they ought to divest themselves as much as possible of all hypotheses and opinions which they might have formed from perusing the works of the many able authors who had written on the subject of Cholera Asiatica, and humbly endeavour to decide the question before them from what they had themselves observed.

Dr. Ross JAMESON said—I trust that no apology is necessary for the share that I have taken in calling together this meeting upon the present occasion. The question

about to come under consideration is one confessedly of vast importance, as it bears upon the happiness, the safety, and the well-being of society. It has been distinctly stated from the Chair, that the object of this meeting is not to discuss the question of contagion or of non-contagion generally, but simply to learn from the verdict of the medical men of Dumfries, here in public meeting assembled, whether or not cholera in this locality has been merely epidemic, or merely infectious, or merely contagious; or whether the disease may not have been introduced and propagated partly through all these three channels. I shall endeavour to shew that cholera, as it has prevailed in Dumfries, has been most decidedly epidemic, and also that there has as yet been no proof that the disease has been either infectious or contagious. I may here mention that the facts I am about to adduce, rest partly on the authority of the surviving relatives of the sufferers, whom I myself have examined separately, and partly on the authority of some of the medical gentlemen by whom the cases were attended. The first case was Mary Paterson. She was attacked on the 15th September last. It has been proved satisfactorily, that she never had been in any district where cholera prevailed; that she seldom left Dumfries—nay, that she rarely left her own house, except to go to church. Report said that she washed the clothes of some medical gentleman from England. The report was unfounded. It was next rumoured, that a few days previous to the attack, she had received and washed some clothes from London. A slight stretch of the imagination converted the clothes thus alleged to have been received into the garments of a cholera patient. But how stands the fact? She received the clothes, not from London, but from Airdrie House, a gentleman's seat where quarantine was rigorously observed—she received them, not a few days, but a few months previous to her illness, lastly, with a single exception, they were all new—all belonging to an individual who assuredly had never witnessed a case of cholera in her life. I have it on the authority of one of her nearest surviving relatives, that no individual who saw Mary Paterson after her seizure on the morning of the 15th, has since been attacked with cholera. In fact, if ever there was a case which seemed hedged round against the idea either of infection or contagion, it was the case of Mary Paterson. The next three *well-authenticated* cases were those of John Paton, Robert Home, and Peter Brannaghan. Not one of these individuals saw one another after the seizure of the one, and before the seizure of either of the other two. Not one of them had seen Mary Paterson; not one of them had visited any district where cholera existed. Now what is the meaning of the word epidemic? When a certain number of individuals living in the same locality—holding at the time no communication with one another—and holding no communication with any diseased district, exhibit nearly about the same time the same morbid phenomena, these individuals are said to labour under the effects of an epidemic virus. Now, in this instance, we have four individuals who lived in the same locality—who held *at this period* no communication with one another; who had never been in any diseased district whatever, and who exhibited the same symptoms nearly about the same period. Hence, then, by my definition I am justified in concluding that these four individuals laboured under the effects of a morbid epidemic influence. If on the other hand, Paterson had just returned from Glasgow—if she had then been seized with cholera—if the greater number of her attendants had been seized likewise, but none else in the immediate neighbourhood—if moreover this had been the exact case with the *very great majority* of individuals attacked during the first ten days, then I would have inferred that the introduction of cholera into Dumfries was not to be ascribed to epidemic influence, but was to be attributed either to infection or contagion—to communication betwixt healthy and diseased individuals. So much for the rise. Now as to the progress of this epidemic in Dumfries. In that range of buildings commencing with the

King's Arms entry, along the High Street, and turning along Shakspeare Street, as far as the opposite entry of the King's Arms, and in all the intermediate lanes and passages, cholera has been severe. On the opposite division of High Street, the number of cases has been comparatively small, and on the corresponding division of Shakspeare Street only one case, and that one clearly imported. I state this fact on the authority of the resident district surgeons, Dr. M'Culloch and Mr. M'Kenzie. In that portion of Loreburn Street, commencing with the Relief chapel, and terminating at Gowanlock's close, the population on the east is about 33; on the west side about 40; on the east side 9 individuals were attacked —on the west side not one, except a child, who died with suspicious symptoms. Out of eight of the closes, comprising a portion of Old Fleshmarket Street, commencing with Seaton's close, in the first four the cholera has been severe; in the last three even unusually fatal; in the fifth, the Cross Keys close, *not one* case has yet occurred. In that division of Old Fleshmarket Street alone, between 60 and 70 cases occurred. On the corresponding portion of the opposite side *not one*: nay, I have been told on good authority, that in all that range of buildings between that portion of Fleshmarket Street and the Town Hall, there has been *only one* well-marked case of cholera. Lastly, I may mention that I have been informed by Dr. Grieve, physician to the Infirmary, that a patient who came from the country, after being three days resident in that institution, was seized with cholera, but that the case has as yet proved a solitary one. These facts are so striking—so consistent with the wayward course of an epidemic—so contrary, nay, so utterly opposed to the usual tract of an infectious or contagious disease, that it would be alike unnecessary and impertinent in me to draw from them any elaborate deduction. I beg leave to state in conclusion, that I have never yet seen or heard of any case in Dumfries, which could not be most satisfactorily accounted for upon the hypothesis of epidemic influence; but a very great majority which can in no wise be accounted for either on the principle of infection or contagion. Is it not, then, altogether unphilosophical to adduce a second and more unlikely hypothesis, when one both more satisfactory, and more capable of demonstration has already been adduced? I must now apologise for having detained you so long. Yet would I fain trespass a few moments longer upon your attention, whilst I endeavour to refute an objection which has been raised, not by my opponents, but by certain sincere, yet timorous supporters of my hypothesis. The objection has been raised on the ground of expediency. "We are anti-contagionists," say these alarmists, "but certain medical men are contagionists; therefore impress the doctrine of contagion upon the minds of the unprofessional. It is the safest side to err on." I am grieved to say, candour requires me to confess that the premises of the proposition are undoubtedly correct; for some medical men are as *yet* contagionists; but the conclusion of the proposition, so far as relates to the comparative danger of the two doctrines, seems wholly untenable, and appears to me the deduction, not so much of cool reason as of partial and satirical observation. What, Sir! is there no danger in increasing the grand predisposing causes of cholera? no danger in increasing panic throughout the land? no danger in increasing the want of the necessaries or of the comforts of life? And moreover is there not a far greater moral danger in tearing asunder with rude and rugged grasp all the dearest and tenderest sympathies of humanity? In separating the father from his son's death-bed —the son from the father's.—Aye, the mother, too, from the infant's whom she bore? Is there any one now present who has never witnessed such scenes? If such an one there be, he is more fortunate far than I have been. I have witnessed many such—some of them but too lately. Finally, I would ask is there any one here who has ever heard of the selfishness, the cruelty, and the brutality so frequently exhibited in every country in the world (but in these only) where the doctrines of infec-

tion and contagion have been successfully promulgated, who will now be prepared to deny that the tendency of these doctrines is alike hateful and pernicious? Yet, if they be true, deny them not.—"*Fiat justitia, ruat cælum.*" If, however, as these alarmists readily confess, such doctrines are unfounded and sophistical, then it becomes a sacred and a social duty to remedy, if it be yet possible, an evil so terrible and vast—to impress the true opinion upon the minds of all our countrymen—to tell them confidently, that should they withhold even their personal attendance from the poor man's deserted death-bed, it will not shield them from this noisome and wide-spreading pestilence—to tell them that there is but one safeguard on which the christian can rely, and that safeguard is the moral courage that results from faith in that Almighty Being, "who rules the whirlwind and directs the storm." Dr. R. J. concluded by moving the resolution, which will be found at the head of this article.

Mr. CHARLES BELL, in rising to second the resolution, said—After the very impressive speech they had just heard, it was unnecessary to say more than merely second the resolution, which he did unhesitatingly, as he most cordially agreed with all that had been said on the subject by Dr. Jameson.

Dr. M'CULLOCH.—I have only to remark, that after the eloquent, able, and conclusive speech of Dr. Jameson, it would be a work of supererogation in me to adduce more facts in proof of the non-contagious nature of cholera. I have only to state, in continuation of my learned friend's able remarks, that it is both a matter of expediency and humanity to make these (in my mind) unanswerable arguments public, because not only is the trade of the place suspended, but all connexion, generally speaking, with the surrounding country is cut off, thereby not only making provisions dearer, but depriving great part of the population of the means of earning a livelihood, and consequently creating much famine and misery, most lamentable to contemplate; and almost to a certainty superinducing a second visitation of the pestilence from its very effects, viz. famine and frightful consequences. I have now only to declare my sincere conviction, that Asiatic Cholera has been in no instance that I have either seen or heard of, a contagious or infectious disease.

Dr. THORBURN observed, that able as Dr. Jameson's statement was, he must confess that his opinion, as to the communicableness of Cholera, remained unchanged; but before proceeding to give the grounds on which that opinion rested, he would beg leave to say, he by no means pretended to attempt answering Dr. J.'s remarks at present, as he had come to this meeting totally unprepared, from an expectation that the task would have fallen to much abler hands; but as he saw that several of his most experienced and talented medical friends, who entertain similar, or at least nearly similar opinions to his own, were absent, he would content himself with offering a few cases and observations in illustration of his view of the subject; he need hardly add, that he had prosecuted this important enquiry with every possible impartiality, and that though his hopes and wishes, from motives of personal feeling, popularity and interest, very naturally inclined him to view the disease as totally *non-contagious*, he had, nevertheless, found that such a conclusion would be quite at variance with a conscientious consideration of facts. Being absent during the occurrence of the first well-established case, and not yet having had leisure to enquire minutely into the circumstances of it, he could not speak so positively as was desirable, but he had no doubt the woman first attacked had contracted the disease from washing infected clothes belonging to one or two of the many strangers who at that time had flocked to Dumfries to witness the ascent of the balloon. Even were there no room for such a probability, it would not at all militate against the doctrine of contagion—for who has been able to trace the commencement of typhus or scarlet fever (diseases generally admitted contagious) here or elsewhere, to distinctly contagious origin?

Nay, the proofs that cholera was directly imported, through the medium of goods, from Hamburgh to Sunderland, is at least as clearly established as most instances of the former visits of plague to this country or France. But he would now speak of what he had seen here. On the day of his return he went to visit a woman named M'Kaig, residing in St. Michael-street, and found her in the collapse stage of malignant cholera. What was her history? Her mother had just that morning died from a like attack, and had been carefully attended, her dead body dressed, and the sheets on which she expired burned, by this patient, who died a few hours after he saw her. On the same day, a man, Gass, living in Church-street, Maxwelltown, was seized; he was carefully attended by his son, who lived in Dumfries; the latter soon followed his father to the grave. Next morning, a man, Dixon, in Mill Brae, was seized; his family were so stupid and timid that his brother, who resided near Terregies' Manse, felt it incumbent on him to attend him during his last illness; he, and a daughter of the patient stretched the body, &c.; three days after the brother died at his own house of cholera, and the girl has also been attacked. In the same quarter a poor woman died, and no one had the courage to approach the body, except a girl named Halliday, who within a few hours also died. Then, again, in Church-street, a man, Murray and his wife; in Red Lion-street, Wylie and his wife, and step-son; also, in the same street, M'Kilver and his wife were all one after the other attacked and killed by cholera. In Market-street, a man named Hay and his wife died in the same way; and their son and step-daughter, either on the same or following day, went to the house, eat and drank what was to be found in it, putting on some of the apparel of their deceased parents, and on the same evening they were attacked with cramps, vomiting and purging, and other symptoms of cholera, though not severe enough to destroy life. A tailor named Carson, residing in Glasgow-street, was attacked—his wife, being then resident in the country was instantly sent for; she, a sister of Carson, and a young woman named Mitchell, assidiously attended him to the last; the sister died four-and-twenty hours afterwards, and the other two just named have also had the disease. These cases coming under the actual observation of one out of a score of practitioners, are too numerous and consecutive to be called exceptions. How many similar must not others have had in the same short space of time and limited field! There are instances of entire families being seized, one after the other in Dumfries. At first one case, he understood, occurred in our jail, it was immediately followed by others; ditto in the Hospital. He believed *one* out of every *three* of our practitioners had been attacked, more or less severely, with cholera. Several nurses on duty in the Cholera Hospital have had the disease; two letter-carriers, one after the other, have died of it. What is the common-sense deduction from these facts? Is it not that all those who are most directly exposed to the atmosphere, poisoned by emanations from the sick and dead, were attacked in a ten times greater proportion than others—thereby exactly following the course observed in other contagious disorders. The non-contagionists say that the poison exists in the air,—granted; but *what* poisons the air? "O," say they, "it is something generated *in* the air, earth, or clouds." Have any particular changes in elements been ever seen, heard, or proved to have taken place since 1817, when cholera first assumed its present character? Certainly not,—it is natural to conclude that since the foundation of the world the same terrestrial and atmospheric changes, as may have existed since 1817, had previously repeatedly taken place. Intermittent fever does, confessedly, originate from natural operations, but these we can, in most cases, trace or even see,—never so, with regard to cholera. Now, we do, however, see individuals suffering from typhus, from cholera, &c. we know that certain exhalations arise from the morbid body into the atmosphere, and that those most exposed to this body, and to this atmosphere,

are repeatedly attacked with a similar disease. Non-contagionists admit this practically, for they allow, that a person entering a sick room, is in more danger than outside of the door or wall. Now, how is this to be explained, but that the diseased body is contaminating the air of the room with a poison, similar to that under which it suffers.—These, and numerous other circumstances and observations, had brought him unwillingly to conclude that cholera derives its chief, nay, its only source, from poison emanating from the human body, and that it can be propagated in the same way as many other confessedly communicable maladies. As to the primary cause of cholera we know nothing, save that, like plague, or animal existence itself, it derived its origin from the hand of Heaven.

Mr. Charles Bell, in reply to Dr. Thorburn, said—He did not consider the cases brought forward by Dr. Thorburn tended at all to prove that cholera was contagious; on the contrary, they only proved that the atmosphere breathed by those patients was vitiated, by some unknown cause, and unless Dr. T. could produce several well authenticated cases, where people labouring under cholera, were carried to a distance from the infected district, and there communicated the disease to their attendants and neighbours, he could not admit that it was contagious or infectious; for the circumstance of one individual being infected by going to see another in cholera in an infected locality, could not establish his assertion. It might as well be said, if a person were drowned by going into a river to the assistance of another, that he was drowned by coming in contact with that person, and not by the water which surrounded him.

Dr. Reid—There is one circumstance which I would beg leave to lay before the meeting, as it appears to me to serve nearly all the purposes of an experiment on a large scale, in assisting us to come to some satisfactory conclusion on this question, and that is, what has occurred in the House of Refuge. We have there about a hundred children and widows, a great majority of whom have been kept in that house for the last fortnight, and all of whom immediately before their removal to the Academy were exposed some for a few hours, others for probably three or four days to the contagious influence of this disease, if there is any such thing, and yet upon inquiry I find that only one doubtful case has there shown itself. Some gentlemen I know seem to think this fact to be rather a proof in favour of contagion than against it, for say they, "the people in the academy have been removed from the contagious influence, and therefore have been comparatively free from the disease." If these individuals had not been exposed to the influence of contagion before their removal to the house of refuge, I grant them it would be a powerful negative proof in favour of contagion, but as the case now stands, it appears to me to be a very powerful argument in favour of the epidemic influence being the sole cause of its propagation. It must be remembered that when these individuals were removed to the House of Refuge from the houses where their fathers and husbands had lately died, and been carried out to the grave, that they were not removed from the contagious influence, but carried it along with them to their new abode, and indeed would be as much exposed as if they had remained in their own houses; for the bodies of their dead relatives, the only cause of contagion or infection, had been removed. It is perfectly well known that infectious and contagious diseases do not seize upon their victims *immediately* after exposure to their baneful influence, but it is generally a few days after exposure, that symptoms of the disease appear. It may be proved to demonstration that if cholera be an infectious disease, it resembles other infectious diseases in not attacking individuals immediately on exposure. We are all aware that it has frequently happened that individuals, after leaving a town suffering under cholera, and removing themselves to places perfectly free from the disease, have yet been attacked several days after their removal. And if any person should think that these individuals

now in the House of Refuge, were not sufficiently exposed to the contagious influence before their removal, I may mention that I know it to be the opinion of a medical gentleman, whose authority on this or any other point connected with the profession, stands as high as that of any other medical man in the island, that if cholera is at all contagious, a very slight contact with persons affected is sufficient for the purpose. Will any gentleman pretend to say that if as many people had been equally exposed to measles, scarlet fever, or small pox, who had never been vaccinated or inoculated, diseases undoubtedly contagious, that an infinitely greater proportion would not have been seized? What must render this fact of no small weight, is the great number of individuals of different ages upon whom this experiment, if I may so call it, has been tried, since I believe that a great deal of the endless discussion on contagion and non-contagion has arisen from hasty generalization, from inquiries drawing general conclusions from insulated facts, as the rise and progress of the disease in one situation cannot be applied to every other; for what epidemic or contagious disease is there, whose type and character is not altered by time or place? It is, therefore, with great pleasure that I find the general question of the contagion or non-contagion of cholera to have been carefully avoided in the resolution now proposed to the meeting, and that we are only requested to give our conscientious opinion of what we have seen in Dumfries. I should wish that the gentlemen who look out for those cases which apparently serve to strengthen the doctrine of contagion would also give us all the insulated cases which have fallen under their observation. Now, if their experience has been similar to mine, they will find these to have been pretty nearly equal, and since the introduction of the disease has been clearly and indisputably shown by Dr. Jameson to have been dependent upon epidemic influence alone, I am astonished that these gentlemen should think it necessary to call in the agency of another cause whose existence is at least problematical, when all the cases can easily be explained by the agency of a cause whose existence is undoubted. I therefore most heartily support the motion of my friend, Dr. Jameson, who certainly deserves the best thanks of this meeting for the very able manner in which he has investigated the subject now brought before us.

Mr. MACBRIDE.—As an argument against the present epidemic originating from atmospheric influence, it has been asked, how does it break out in one place without shewing the least symptom in the immediate vicinity? and how can you account for an individual having caught the disease after seeing a near relation, but by contagion? To such querists I would answer—that it was not from the person affected that the visitor caught the disease, but from inhaling the atmosphere where the disease originated—being predisposed by fear, or by agitated feelings in seeing his friend in such agony. It is well known, that at a certain height there are currents of air moving in opposite directions, and from late experiments it has been proved beyond doubt, that these currents sometimes come in contact with the earth. Now, Sir, from what I have stated, it is easy to conceive how one place may be affected, and its immediate localities escape; for instance, the current or vein of air containing the epidemic virus may have come in contact with the earth in that particular spot, and thereby affecting those who are predisposed in a very severe form, owing to the virus being concentrated; but as the virus intermixes with pure air, and becomes more diluted, in like manner the disease becomes more mild.

Dr. GRIEVE stated that in addition to the case already adverted to by Dr. Jameson, he could adduce many which had occurred in his private practice, and in the hospital, in proof of the non-communicability of cholera, but he thought it unnecessary to enter into a detail of them at present when so many facts illustrative of the non-contagious nature of the disease had been brought forward. He thought that the absence of all proof of the malady having been imported was much against those who advocated the

doctrine of contagion. Inanimate matter, as clothes, furniture, &c., in his opinion, were not capable either of receiving or communicating the supposed contagion. He had no doubt that the disease originated in Dumfries from a local miasma—the specific nature of which he would not attempt to explain—as it had done at Jessore, in Bengal, in 1817.

Dr. Ross JAMESON.—I beg leave to say a few words in reply. If I understand aright the opinion of Dr. Thorburn, he denies the existence of an epidemic influence as affecting the rise and progress of cholera. His arguments rest solely on the fact that occasionally cholera attacks the majority of a family. But this by no means bears upon the point in dispute. All epidemic diseases do the same. I think I have pretty clearly proved that the rise and progress of cholera are to be attributed to a morbid epidemic influence.—Now as far as regards the opposite side of the question the *onus probandi* lies with my opponent. No man can prove a negative. The fact of infection or contagion (as I have already remarked) can only be proved by an individual coming from a diseased into a district decidedly healthy, taking the complaint and communicating it to the attendants who *alone* in the locality are affected. It is by the production, not of one or two isolated cases, but of a *very considerable* number of such facts alone that the infectious or contagious nature of cholera in Dumfries can be proved. These facts do not exist.

The motion was then put from the chair, and carried by a majority of 11 to 1.

Mr. Spalding moved that the thanks of the meeting be tendered to Dr. Jameson for the trouble he had taken in calling them together, and for the opportunity thus afforded them of declaring their sentiments upon the subject so ably submitted by him to their consideration; which, being seconded by Dr. M'Culloch, was unanimously carried.

Dr. Ross Jameson returned thanks.

After a vote of thanks to the Chairman for his able and impartial conduct in the chair, the meeting separated.

XLVI.

INJURY OF THE PENIS, AND AMPUTATION OF THE ORGAN.

THIS case is related in the Lancet for Sept. 22d, by Mr. Williams, an intelligent surgeon of Llandovery. We will give an abridged account of it.

Case. In April, 1832, a farmer's son, æt. 11, had his penis bitten through his trowsers by a brood mare. No wound was inflicted, but mortification ensued, and on the separation of the slough the glans was left attached to the body of the penis by a small isthmus inferiorly. The wound was healed under the superintendence of an old woman, and on the 22d July the boy was taken for the first time to Mr. Williams.

The penis now presented no great deformity, but the urine escaped guttatim through an opening in the cicatrix scarcely large enough to admit the point of a bristle, and situate on the dorsum of the penis, just behind the corona. The portion of urethra lying in the glans was quite impervious, and formed a stricture, about three-fourths of an inch in extent. The bladder was much distended. Mr. Williams determined to amputate the penis, just behind the injured part, and in this opinion Dr. Bowden, of Carmarthen, coincided. The operation was performed as follows:—

The root of the penis being held by an assistant, the glans and prepuce were grasped between the fingers and thumb of the left hand, and gently drawn forward, so as to elongate the penis; then, with a straight-bladed bistoury, the whole of the parts that constitute the organ were extirpated at one stroke, directing the incision from below upwards.

The urine was immediately evacuated in a full stream, and the force with which it was propelled, showed that the bladder had not lost its power of action. After making pressure for a short time on the bleeding vessels, the flow of blood was arrested, without having recourse to ligatures, and

the wound was dressed simply with dry lint. I found the next morning that a slight hemorrhage had taken place in the night, but it had now completely stopped; the urine freely passed, and a poultice was applied to the wound, which had now become considerably inflamed and swelled. A slight hemorrhage returned two or three times, generally in the night, but the inflammation and swelling soon subsided, the bleeding disappeared, and the surface began to granulate."

In order to try whether the orifice of the urethra would contract if left to itself, no bougie was introduced. At the end of nine days the wound was nearly healed, and the orifice so contracted that the point of a small probe could scarcely be introduced. Bougies were employed, and in four days a common-sized one could be passed. At the end of a fortnight the bougie was discontinued for 24 hours, when the urethra was again found very contracted. The bougie was resumed, and has been continued up to the 12th Sept. the date of Mr. Williams' communication. It will be seen, on referring to the operation, that no precaution was adopted to preserve integuments, yet they overlap the extremity of the stump sufficiently to offer no impediment to future erection of the penis.

We must confess that, so far as we can judge from the description of Mr. Williams' we should have been rather tempted to save the glans than to have removed it. Amputation of the glans is a serious evil—first, because it is the seat of much of the venereal pleasure—secondly, because the penis is much disfigured by its absence—thirdly, because the extremity of the urethra on the surface of the stump, after amputation is especially liable to contraction. We should have been inclined to attempt opening up the impervious urethra in the glans, not by the caustic bougie, but by a small trocar, and the subsequent employment of bougies. —Supposing that this attempt had failed, we believe it would have been better to have dilated the orifice on the dorsum of the penis behind the glans, than to have amputated the latter.

XLVII.

Removal of Calculi from the Female Bladder by Weiss's Dilator.

In the number of the Lancet containing the preceding case, is a short communication from Mr. Lovegrove, of Horsham.

A young woman, æt. 20, had distressing symptoms of stone in the bladder. After trying "various alkaline medicines," Mr. Lovegrove determined to remove the stone by dilatation of the urethra. He introduced the dilator, and gradually expanded the blades till they were opened to their greatest extent; this occupied forty minutes. The dilator was allowed to remain twenty minutes and was then withdrawn, when a calculus the size of a walnut was expelled. The patient was ordered an opiate and nothing untoward occurred. For three weeks all went well, but then other calculous symptoms occurred.—The operation was again resorted to, and was repeated three different times at varying intervals, the bladder on each occasion expelling two, sometimes three calculi, from the size of a walnut to that of a hazel nut. The patient retains her urine "as well as before the operation," but we are not informed how well that is.

Mr. Lovegrove should have stated the kind and composition of the calculi, and also the condition of the urine. We cannot judge of the propriety of administering "various alkaline medicines," in the absence of such information. Supposing that the urine was already alkaline, and that the calculi were composed externally of triple phosphate, we need scarcely inform our readers how injurious alkaline medicines would be, how calculated to establish or maintain an alkaline diathesis. We do hope that practitioners will attend to these points, and that they will record cases in a more scientific and exact manner than many have hitherto done.

XLVIII.

PHYSIC AND SURGERY.

WE have been much pleased with the perusal of the introductory lecture of Mr. Samuel Cooper, delivered to the surgical students of the London University on October 3d, 1832, and reported in the London Medical and Surgical Journal for October 6th. After giving a brief, but distinct and interesting sketch of the history of surgery and physic, he takes up the consideration of the present actual division between them. The sentiments of Mr. Cooper on this head, perfectly coincide with what we have ourselves on several occasions expressed, and we cannot allow the opportunity of recording them to escape us.

"An interesting question now presents itself—has the division of the profession, into physicians and surgeons, assisted or retarded its improvement? This is a point on which it may be difficult to give a ready answer. Perhaps I should be justified in saying, that the division of practice, the division of labour, has had good effects, particularly when such division was exercised by men, who had the same foundations, and began their respective careers, enriched from the same stores of science; for, gentlemen, if I am certain of any thing, relative to professional education, it is that medical and surgical practitioners should all go through precisely the same elementary studies. Thus far I concur with many enlightened members of the profession; because, in whatever way the question, about the division of practice, may be disposed of, the unity and indivisibility of the science itself must continue. But I completely disagree with those who seem to desire nothing less than the annihilation of the physician and regular surgeon altogether. Human life is not long enough, and human faculties are not powerful enough, for any one man to attain, in both departments of the profession, the point of perfection, to which the talents and industry of many generations have now brought them. Had he the longevity of a patriarch, his time would yet be insufficient for so ambitious a purpose.

I calculate, that the young physician, and the young surgeon, who mean to reach the temple of fame, ought to commence their journey and travel together many miles along the same road; but that, when they have proceeded a certain distance, they must diverge a little, each taking the path leading to the summit of that branch of practice to which he is particularly devoted. Each carries along with him, however, the knowledge both of physic and of surgery; and each is endowed with all that variety of information, which I have represented as forming the basis of medical science. For my own part I should never have any confidence in a physician ignorant of surgery; nor is it possible to suppose any man entitled to the name of a surgeon, who knows nothing of physic."

We can scarcely add any thing to these observations, unless we were to state in still stronger terms our disapprobation of the attempt, or rather the wish, for the attempt would be preposterous, to annihilate the physician and consulting surgeon altogether. Such a notion argues an utter ignorance of the natural progress of civilization, and the entertainers of it might as well proclaim at once that they think the establishment of Owenite communities possible. As man becomes civilized and social establishments gain strength, the division of labour likewise increases. In the wigwam of the savage, each individual is the manufacturer of most, if not the whole, of his necessaries and comforts. When a village is formed, the same individual practises many t —is cobbler, tailor, and draper. When commerce has erected that village into a town, the united trades are dissevered, and one person follows but one calling. The town increases to a city, such perhaps as the mighty one we dwell in, and with the augmentation of inhabitants is a proportionate augmentation of the subdivisions of labour. The tailor is no longer the artisan, he does not make, perhaps he scarcely sees, the clothes he sells. One workman

fabricates the trowsers, another sews the coat, a third gets up the waistcoat, nay, waistcoat making itself becomes a separate craft, and may be again sub-divided. Some of our readers may recollect the satirical remark of Lord Byron on this head :—

> None are complete, all wanting in some part,
> Like certain tailors, limited in art,
> For galligaskins Slowshears is your man;
> But coats must claim another artisan.

Turn which way we will, we meet the same subdivisions, continually increasing with the progress of society. Is it natural to expect that medicine can resist the operation of a law so general and so powerful? It is not; and we repeat, that the idea of annihilating the distinctions of physician and surgeon is at once preposterous and impotent.

The point to which all should direct their attention is the education of the young man. Let that be rendered as general as possible, and let circumstances or inclination determine his subsequent choice of a particular department. This, however, is not the whole of the case, nor is this the perfect solution of the difficulty. The general practitioners are a class continually increasing in intelligence and respectability, qualifying themselves for a high station in medical society, and determined to assume it. Yet the general practitioner is a sort of homo non in our constitution—he belongs to the College of Surgeons and Society of Apothecaries, he really supports them, and yet he is an out-cast from either. These are anomalies that need not exist, that cannot endure. They are not the produce of present civilization, but the remains of institutions of a former æra. The day for the destruction of such things may be more or less protracted, but so surely as the mind of man does not retrograde, they will sooner or later be swept away.

XLIX.

CLINICAL INSTRUCTION.

IN the quarterly Journal of Education, for June last, it was asserted that the system of clinical instruction in Edinburgh was so infinitely superior to that adopted in London, that the latter was quite undeserving of the name. In the Introductory Lecture, delivered by Dr. Elliotson, in the London University, on October 1st, that able physician takes up the gauntlet, and vindicates his own system of clinical instruction from the injurious aspersion of the reviewer. The comparison is interesting, and may perhaps afford some useful hints.

"Really, when he says that the clinical teaching of London will not bear comparison with that of Edinburgh, for that we ought to show the pupil 'how to use his eyes, his ears, his hands,' he convicts himself of perfect ignorance of the present clinical teaching of London, in those hospitals where clinical instruction is given at all. My plan has always been, to spend two or three hours at the visit; to converse familiarly with the pupils on the cases; to request every one to observe the countenance of the patient, the expression and hue of which are often sufficient to indicate the changes that have occurred since the previous visit; to request every one to notice the appearance of the tongue, and to feel the pulse; to present each with my stethoscope who has not one, and stand patiently at the bed-side while he is listening; in short, to act the part of a private tutor in the wards to each, just as the demonstrator does in the dissecting-room. A true clinical lecture is thus given at every visit, though it does not bear the name, and is not published. Once a week I take a general view of the cases that have terminated, classing similar cases for comparison, contrasting others, applying general remarks to particular case, and presenting a short abstract of each case and its treatment.

In Edinburgh, the lectures, as far as I have heard and read them, are similar; and if two are delivered in the week, and the remarks are sometimes of a more elementary character, this is but a compensation, and in my opinion, is very far short of a

compensation, for the defective teaching in the wards. When I studied in Edinburgh, but a small number of the pupils got to the bedside; the greater part stood about, seeing few of the patients, and contenting themselves with hearing announced what was the state of the pulse, the tongue, the surface, the bowels, &c. and noting each announcement down as it was made. We might almost as well have read a case in a journal. Few or no remarks were made by the physician or surgeon; no reasons for his particular practice were given—no conversation took place, the students were not individually instructed in the use of 'their ears, their eyes, and their hands;' all was a dry announcement of the symptoms and the prescription of the day."

In the lecture from which the foregoing extract has been taken, there is much to challenge approbation. It is in keeping with the spirit of the times, and if the Senate and Professors of the University effect what they openly promise, by the mouth of Dr. Elliotson, it requires no gift of prophecy to foretel, that they will revolutionize the schools of medicine in London. After making an earnest and eloquent appeal to the public, to erect and support a hospital in connexion with the University, Dr. Elliotson proceeds as follows.

"It is the custom, where the physician does his duty to the pupils, for certain young gentlemen to hold the office of *clinical clerks* —to examine and draw up an account of each case at its admission, and keep a daily report, in books which are open to the rest of the pupils. For the privilege of performing this labour, they of course pay nothing. But other young gentlemen who hold a similar office under the surgeon, and have much drudgery to perform in dressing sores, bleeding, extracting teeth, and passing bougies, thus performing no small share of the humbler business of an hospital, under the name of *dressers*, actually pay, in addition to a large entrance fee, no less than fifty pounds. With us, I trust they will be placed on the footing of the clinical clerks, and pay nothing additional: Lists will be kept of the most meritorious pupils, and clinical clerkships and dresserships bestowed upon them in succession; none being permitted to retain his appointment longer than six months while another on the list is waiting for it. (*Loud applause.*) It will also be worthy of consideration, whether the most distinguished and able may not ultimately be allowed to practise, with certain limitations, under the eye of the physician or surgeon; and whether the office of house-surgeon, which will be annual, should not be annually given to the most distinguished surgical pupil. I trust that every day a physician and surgeon will visit all their patients, and at different hours, so that the students may go round with both."

This is as it should be. In order that a young man shall be house-surgeon at most of our London hospitals, it costs him a considerable sum. But this is not all. His election to the office is rather a matter of seniority than a reward of merit, or, at all events, it is not a gift to the meritorious. By the university regulation, the office will annually be conferred on the most distinguished surgical pupil. If such principles really guide an institution, if such a system be sincerely, zealously, and steadily pursued, every man of liberal feeling must applaud, though private partialities might direct his wishes to other quarters.

L.

MR. CARMICHAEL ON TRACHEOTOMY.*

OUR Dublin contemporary increases in value with each succeeding number, and it does no discredit to the character of the profession in Ireland. In the No. preceding the present, was the commencement of a review of Dr. Stevens' work upon the Blood, which evinced the sound judgment of the editors. At that time, we believe that the reviewer stood alone in his condemnation of the

* Dublin Journal, No. V.

Doctor's absurdities—too many of the medical periodicals appearing to have been humbugged by this modest gentleman.

The first paper in the No. before us is by Mr. Carmichael, and entitled, "Observations on the Use of Tracheotomy in Chronic Diseases of the Larynx, illustrated by Cases." In Mr. C.'s Essays on the Venereal Diseases, a work which we presume that most medical men have read, and all should read, he submitted the propriety of tracheotomy, in some of those miserable cases of venereal ulceration of the larynx, which are always so obstinate and often so fatal. "The presumed modus operandi (he observed) of an opening into the trachea, as a remedy, is to allow the patient to breathe through the artificial opening, and permit the larynx to remain undisturbed by the presence of a constant current of air, and thus induce that favourable state of quiescence, which is necessary to the healing of an ulcer in any situation." At that time, Mr. Carmichael had not tried the operation, but since that period he has had very ample experience of the remedy, and can confidently recommend it. Mr. C. relates some cases; let us look at them.

Case 1. "The first case that occurred to me, in which I performed tracheotomy for this form of disease, was that of a man who had lost the velum and uvula, from venereal ulceration; ulcerated patches were visible at the time of his admission, deeply seated on the back of the pharynx, while the superior part of it exhibited the cicatrices of former ulceration. His voice was so hoarse as to be almost indistinct, while a constant croupy cough, and incessant endeavours to hawk up a viscid phlegm, marked sufficiently the existence of ulceration of the larynx. He was greatly enervated, and so exhausted by the malady and the means which had been previously employed, consisting of mercurial courses and fumigations, blisters, caustic issues, &c., that the late Mr. Todd, in consultation on the propriety of the measure, observed, that any experiment was fair in a case in which all the known means had failed, but that in his opinion neither operation or any thing else could save the man's life. The operation was however performed, in his presence, that of Mr. Peile, and the pupils of the hospital—and the man experienced immediate relief, rapidly recovered, and was discharged the hospital in three weeks afterwards, perfectly well."

The next case was very nearly similar. The operation was followed by immediate relief; the patient was discharged well in a fortnight, and has had no return of the disease.

Now it may be objected to these cases, that if the recovery could be so speedy as it was, the disease itself could not have been extensive. It is difficult to imagine that serious ulceration of the larynx, or that chronic disease of any extent, could be perfectly removed in a fortnight under any circumstances. Whether this view be strengthened or invalidated by the following case, we will let our readers determine.

Case 3. "M'Namara; about forty years of age; broken down constitution; countenance anxious, sallow, and emaciated; admitted into hospital in the summer of 1826. The man attributed his present complaint to cold caught after a severe mercurial course for venereal, the remains of which were at the time well marked on his thighs, legs, and chest, cicatrices the size of half a crown, livid, smooth, and slightly depressed; voice almost gone, the whisper *hoarse;* attempts to speak with great exertion, heaving of the chest; the inspiration I recollect to have been greatly laboured; his chief complaint, a soreness which he felt in the larynx, which was painful on pressure, accompanied by a hollow sounding cough and expectoration of tenacious phlegm; his breath very offensive. The treatment was pills of calomel, hippo, and opium, repeated blisters to the fauces and nape of the neck. He was between a fortnight and three weeks in the hospital before the operation was performed by Mr. Carmichael; little or no blood lost at the time, but a troublesome hæmorrhage followed after the operation,

from small capillary arteries and veins; it was more an oozing from the edges of the wound, which during the evening became tumid, everted, and painful; it was, I recollect, particularly distressing to the patient, from the severe dyspnœa that came from the blood making its way into the trachea, but it was easily suppressed by lint and the pressure of the retractors, which kept asunder the edges of the wound. Late the same evening, Mr. M'Dowell was sent for, (as Mr. Carmichael was not in town,) who enlarged the wound in the trachea, upwards, with bistoury and scissors, as the opening did not appear sufficient for the passage of the frothy mucus, which collected in large quantities. The man died the following morning.

On examination, the epiglottis was so thickened as to be almost immoveable, and appeared incapable of acting as a valve to the air to the laryxn during the passage of the food down the stomach; a circumstance which occasions, in these unfortunate cases, great additional suffering to the patient whenever he is obliged to take nourishment. The lining membrane of the larynx was every where so much thickened as nearly to close its cavity, and on the lower part of the thyroid cartilage was a large, foul, and deep ulcer, of a size sufficient to contain a large bean. The diseased parts are preserved in the museum of the Richmond School."

That this patient would have died under any plan of treatment is most probable; but tracheotomy did not save him. Now these are all the cases of venereal affections of the larynx, for which tracheotomy was performed. Mr. Carmichael, indeed, says he has not brought forward one half of the cases he might have done; but the public must judge by the evidence presented, not by that which is withheld. If our readers are satisfied with that evidence, it is well; we must own that it does not bring conviction to our own minds, of the powers of tracheotomy in severe venereal affections of the larynx. At the same time, we would earnestly direct the attention of surgeons to the subject. Mr. Carmichael relates two other cases in which tracheotomy was performed, the one an instance of chronic, the other of acute inflammation of the larynx. We will briefly mention them.

Case. A lady, aged 50, had all her life been subject to catarrhs, which always occasioned hoarseness. In Dec. 1831, the voice was nearly gone, and she had most of the ordinary symptoms of chronic laryngitis. In February she could only speak in a stridulous low whisper. She consulted Mr. Colles, who made her mouth sore and herself worse. A solution of argent. nit. (3ss. ad ℥j.) was applied to the pharynx by means of a piece of wire, with lint attached to the end of it, passed through an elastic tube. This was abandoned, in consequence of the irritation which it occasioned. Towards the end of April, her feet and legs began to swell, and orthopnœa was very distressing. On the 4th May, Mr. Carmichael was called to her. The dyspnœa was very urgent, the inspirations croupy, the lower extremites œdematous to the knees, and the patient had been unable to lie down for several weeks. On the 5th, Mr. C. operated, and on that night she slept. On the 7th, the breathing was much oppressed, and the margins of the wound swollen. A number of leeches were applied, and followed by great and decided relief. Her subsequent recovery was progressive. She breathes through the wound, which is kept open by two concave plates of silver, that form a tube when pressed together. She cannot inspire at all by the natural opening, and speech is annihilated.

There can be no question, as Mr. Carmichael remarks, that in this case there was great thickening of the lining membrane of the larynx, that that thickening was the real cause of the destruction of the voice, and, but for the operation performed, would certainly have destroyed her life.

In "all the other cases of affections of the larnyx, either acute or chronic, upon which I performed tracheotomy, the voice was gradually restored as the inflammation and swelling of the larynx subsided; the

wound in the trachea, notwithstanding the removal in every instance of a portion of the rings, progressively closing as the obstruction to the passage of air in the larynx diminished."

CASE. *Acute Laryngitis—Tracheotomy.* On July 20, 1831, a boy, æt. 2, either drank some boiling water from the spout of a tea pot, or, what is more probable, inspired the steam. He did not suffer much till late in the day, when a gentleman leeched his cheek and gave him some purgative medicine. On the following day Mr. Carmichael was sent for, and found the child breathing as in the last stage of croup. With the assistance of Mr. Adams he performed tracheotomy. Difficulties occurred, but they were surmounted, and a circular piece of the trachea was cut out. Next day there was re-action, which was put down by venesection. Every now and then paroxysms of dyspnœa would occur, from the accumulation of tough mucus in the trachea. On these occasions a probe armed with lint was introduced by the attendants, and swept up and down the trachea, with immediate relief. In ten days the child was well, and has continued so. He is now three years old; there is a cicatrix half an inch in length; the respiration and voice are perfectly natural.

"The operator," says Mr. C. "will find great advantage by employing a double hook, which he may boldly plunge into the trachea, as soon as the rings are sufficiently bared for the purpose. By this measure he fixes a part which it is difficult to operate on with safety, as it is in perpetual motion in a person struggling for breath, and at the same time situated at the bottom of a deep wound, and surrounded by the most important vessels: but by means of the hook he is enabled to draw forward the trachea and perforate it with ease. I always employ scissors for this purpose, and cut out a portion of the trachea, as has been fully detailed in two papers on the subject inserted in the 2nd and 4th vols. of the *Transactions of the Association of the Dublin College of Physicians*, in which a considerable number of cases of tracheotomy is detailed, in not one of which was a tube introduced. The opening made in the trachea being found quite sufficient for the passage of air and mucus, and not attended with that irritation which the introduction of a foreign body within the highly sensitive internal lining of the trachea must inevitably occasion.

Let no young practitioner estimate the performance of tracheotomy by the ease with which it is done upon the dead subject. In the living, the parts we have to divide are often swollen, and so turgid with blood that the successive steps of the operation are observed by a rapid oozing of blood with every touch of the knife. The person upon whom we operate is all anxiety, and struggling for breath. In order to avoid the thyroid gland, you must frequently make your incision so low in the neck that it comes upon the sternum, and it will be found often necessary to open the trachea close to the sternum, where it is most deeply situated, and where the surgeon runs the risk of opening the arteria innominata or subclavian vein, or even one of the carotid arteries (the left) where both arise from the arteria innominata. In young subjects, also, upon whom the practitioner is so often called upon to operate, in cases of croup, the rising of the thymus gland upon the treachea, until it even touches the thyroid gland, in the struggles of the young patient to breathe, also renders this operation very difficult, and demands, upon the part of the operator, the utmost coolness and collection of mind; and when, with all these embarrassments, he knows that anomalous large arterial branches often course in front of the trachea, it will be readily allowed that there is cause for as much anxiety in the performance of this, as of any operation in surgery. But if the practitioner is obliged to perform it at night, the difficulty is greatly increased; for it is impossible, as I have often experienced, to throw the light of a candle into a narrow and deep wound, so as to enable the operator to see the parts it is necessary to divide.

Under all these circumstances, after the first incisions have exposed the dense

junction of the muscles in front of the trachea, it is better to lay the latter bare, by scraping with the nail, the director, or any blunt instrument, than to use the knife in a deep wound, obscured by blood, and in the midst of important vessels which you cannot see. When the trachea is rendered sufficiently bare to admit of being seized upon by the double hook, the remainder of the operation, although the most important part of it, is comparatively safe, and may be completed either with the knife or scissors. If with the former, after the trachea is pierced with a sharp-pointed knife, a round piece of it may be cut or scooped out (including that transfixed by the double hook) by means of a straight-buttoned bistoury. If with the scissors, a lozenge-shaped piece may be cut away, as was particularly described in my paper on the subject, inserted in the 4th vol. of the *Transactions of the Association of the College of Physicians.*"

LI.

MERCURY IN CHRONIC AFFECTIONS OF THE LARYNX.

Dr. GRAVES makes some remarks on this subject deserving of attention. They are coupled with a case which we shall abridge.

"When hoarseness or loss of voice are of recent occurrence, and evidently connected with laryngeal inflammation; when they are of long standing, but still accompanied by symptoms usually recognized as indicative of local inflammatory action, then few British practitioners will fail to apply the mercurial plan of treatment. But when all the other symptoms of local inflammation have subsided; when there is no soreness, no tenderness of the throat or air-passages; when there is no cough, no dyspnœa; in short, when the lost voice, or a low and feeble whisper, is the only remaining indication of disease, then are we to have recourse to mercury, even though months have elapsed since the disappearance of the symptoms above enumerated!"

Case. Miss G. æt. 20, a governess, of strong constitution, caught cold in July, 1831. Hoarseness and sore-throat ensued, but under antiphlogistic treatment she recovered. In September the hoarseness, &c. returned, and were very variable in their appearance. She was treated for hysteria by tonics, &c. In November the symptoms were exasperated. Repeated leechings and small blisters were employed with temporary benefit. In February she had another attack, for which she had again leeches and blisters, followed by calumba and nitro-muriatic acid. She was no better for these measures. In April Dr. Graves saw the case. The young lady was pale, somewhat emaciated and weak—the appetite was gone, the bowels were torpid—no pain or soreness about the larynx, but the voice reduced to a mere whisper—the throat and pharynx apparently relaxed. The application of a solution of nitrate of silver, and Lugol's solution of iodine internally, were prescribed without avail.

In despair she left off medicines. In the middle of August she caught fresh cold, and Dr. G. was again sent for. After venesection and antiphlogistic treatment, Dr. G. gave calomel and opium so as to affect the gums. A rapid improvement ensued, and in five days from the commencement of the mercurial action the hoarseness had disappeared. Bed for a fortnight, and strict silence were enjoined, and the result appears to have been quite successful.

LII.

THE DOCTORS DECEIVED.

A YOUNG woman of nervous temperament appeared to labour under strange symptoms, and excited much curiosity amongst her neighbours, as well as created some surprise in the minds of her medical attendants. Her alvine evacuations were passing strange, and by no means like alvine evacuations in ordinary. Sometimes they contained substances which the surgeon in

attendance pronounced to be gall-stones; at another there was seen in them a substance that the physician in attendance conjectured to be the nest of a tape-worm. The matter was of such import, that Drs. Graves and Speer proceeded to investigate the circumstances, and the analytical talents of Dr. Barker, were invoked to bring the aid of chemistry to the inquiry. The gall-stones proved to be pebbles, and the tape-worm's nest was resolved into chewed orange-peel. This interesting young creature had been humbugging the doctors.—*Ibid.*

LIII.

THE ACTUAL CAUTERY IN VESICO-VAGINAL FISTULA.

WE all know how dreadful a malady this is, how great a boon would be conferred upon humanity by the discovery of a moderately successful plan of treatment. Dr. Kennedy has written a paper in our contemporary of Dublin, with the view of recommending the employment of the actual cautery. It was first introduced to the notice of the profession by Dupuytren, but Dr. Kennedy thinks the description of the manner in which it is used by that able surgeon defective. He therefore describes the manner in which he has usually performed the operation.

"The instruments requisite are, a flat female catheter, two female sounds, a speculum, and cauterising iron. Where the aperture is very high up in the bladder, the speculum I prefer, is the large two-bladed pewter one used by the French; as Weiss's small three-bladed speculum, which answers in ordinary cases, when the lesion is more within our reach, does not, in the former, so well expose the part, or protect the vagina from the iron. Where the opening is in the neck of the bladder, or urethra, the operation may be quite as well performed by dilating and protecting the vagina with curved spatulæ. In an operation of this kind, in which I lately assisted Dr. M'Dowel, three broad brass spatulæ, one introduced towards the perineum, and one at each side of the vagina, exposed the lesion remarkably well: this plan has the advantage of not pushing up the bladder further into the vagina, an inconvenience which it is next to impossible to avoid with the speculum. The cautery should be as nearly as possible the shape of the opening in the bladder, but somewhat larger. That which we shall generally find to anwer, is one of an oval shape, with its longer diameter placed transversely. As in the majority of cases, the longest measurement of the aperture is from side to side, and in such the difficulty of affecting an union is greatest; in some cases, however, the aperture has its longest measurement from before backwards, and then our cautery must be similarly constructed. The margin of the cautery ought to be rather more raised than the centre, as our object is to touch the edges of the fistula without injuring the mucous membrane of the bladder.

In applying the cautery we should place the patient lying forwards upon a table, with her limbs hanging over the ends, which should be near a window; elevating the pelvis upon bolsters or blankets placed under it. The limbs should then be separated, and the light thrown as much as possible into the vagina. Where sufficient light cannot in this way be procured, a candle must be used. The speculum is to be introduced, and the lesion brought into view, a flat, female catheter must now be passed through the urethra, and placed across the opening, within the bladder, taking care, at the same time, to reduce any protrusion of the vesical mucous membrane, and retain it out of the reach of the cautery. When the opening into the bladder is very considerable, or the catheter is insufficient, it may be necessary to pass a second instrument through the urethra to effect this object. I have found the introduction of two female sounds answer remarkably well, where a second instrument was necessary. As folds of the vaginal mucous membrane sometimes protrude between the blades of the speculum, the operator must guard against

this, and examine whether the instrument be so adjusted as to prevent the vaginal passage being injured by the iron; taking care that the interior of the bladder is well protected, and the edges of the aperture completely within his reach. Having satisfied himself in these respects, he is carefully to introduce the cautery, heated to a white heat, and, having steadily touched the edges of the fistula, to withdraw it and introduce a pledget of lint dipped in cold water, after which he may gradually remove the speculum. The cautery must only touch the part, for if retained too long in contact with it, might produce a sloughing escar.

The operation is extremely simple, and performed in a minute; and although the name of the actual cautery sounds rather harshly, its application is, in my mind, by no means as severe, or attended with such sufferings, as the suture. The patient should be put immediately to bed, and strict quiet enjoined. The after treatment necessary is merely to keep the bowels gently open, and pay attention to the abdomen, lest tenderness should set in; this I have but once known to occur after the cautery; and then it was relieved immediately, by warm stuping and aperients. After the immediate irritation has subsided, it is necessary to introduce a gum elastic catheter into the urethra, and retain it in the bladder, to insure the urine's passing through it; a precaution the more called for, as in some cases of long standing, this passage has become so collapsed as to be almost impervious. However, in cases where the catheter, on being introduced, passes through the fistula into the vagina, it is better not to leave it in the bladder, else it will do more harm than good. In such it will be sufficient to pass it into the bladder once or twice a day, to endeavour to restore the urethra and bladder to their proper state by bringing the urine in its natural direction. It is necessary that the patient should retain the recumbent posture, and remain perfectly quiet while under treatment; and this point cannot be too much insisted upon. We should also ascertain in what position, namely, whether lying on the back, or on one or other side, or the abdomen, she can retain her urine for the greatest length of time, and cause her to remain in that position as much as possible. This has two recommendations; in the first place, it prevents the urine from constantly escaping out of the fistulous aperture, which interferes with the union of its margins, and progress towards a cure; and in the second, by retaining the urine as long as possible, the bladder, which from being continually empty, had become contracted, is, by this means gradually distended, and rendered more capable of fulfilling its office of reservoir. By attending in this way to position, and the situation of the fistula, the bladder will be induced to contain a considerable quantity of water, in which it is assisted by the transverse distension observed in it as the effect of pregnancy. It is very desirable, however, with a view to recovery, that the urine should be induced to pass through the urethra, and not by the fistula; and, if the plan here recommended interfere with this, it is better to let the patient assume the position in which the urine escapes through the urethra, if it does so more in one than another.

The effect of the cautery is to produce a thickening of the margins, and consequent contraction and diminution of the aperture, and ultimately an adhesion of its edges, closing it up altogether. Upon the size and position of the aperture will depend the greater or less likelihood of perfect cure.

The operation may require to be several times repeated. Whether by persisting in repeating it sufficiently often, we should, even in the majority of cases, succeed in closing the aperture, I cannot say—but rather think not. Fortunately, however, it does not require that the aperture should be actually closed to enable our patients to retain their urine, as a very good substitute for the adhesion of the sides of the fistula occurs in the extension of its margin or lip across the aperture, thus forming a kind of valvular closure of it, by which means the bladder becomes capable of retaining the

urine almost as well as if the opening were closed."

Dr. Kennedy alludes briefly to two cases, in which the circumstance just mentioned occurred. In one, the urine, which before the operation was constantly escaping from the patient, was retained without difficulty after it for six or seven hours. In the other case, the operation was performed six times, and, though the opening did not close completely, the patient could retain her urine during the entire night, and for several hours whilst using exertion during the day. We would recommend a fair trial of the cautery in these cases.

LIV.

GLOSSITIS.

IN the number of the Cyclopædia of Practical Medicine for September last, is a short article on Glossitis, which we shall notice. Passing over some general considerations, of no value, we are presented with the following description of the invasion of the disease.

"Idiopathic inflammation of the tongue, or glossitis, is a very rare disease, and very formidable in itself, as well as in reference to its influence on the functions of respiration and deglutition, both of which are in general materially impeded by its presence; the former so much so as to endanger life. It commences with the usual constitutional symptoms common to inflammatory diseases, accompanied with some uneasiness of deglutition; the tongue is rendered painful, and the patient sensible of its enlargement, which is evident on inspection: its surface, at first very red, soon becomes coated, except at the tip and lateral margins, with viscid whitish mucus; the articulation is indistinct, and any attempt to move the organ, or pressure upon it, increases pain: the saliva appears to be profusely secreted, but the inability and disinclination of the patient to remove it from the mouth, accounts, in a great measure, for the accumulation and dribbling which are always going on. The local pain increases with the progress of the swelling, which is very rapid; speech and the natural motions of the tongue are consequently more and more difficultly performed; and the augmented bulk, encroaching posteriorly on the space assigned to the passage of air and nutriment, increases the difficulties of respiration and deglutition. The pressure also is a source of irritation to the larynx, and occasions a cough, which under the circumstances of the disease is peculiarly harassing; and the cavity of the mouth being too small to contain the tongue in its increased volume, the organ is consequently protruded. In this state it is obvious that a mechanical impediment must exist to the free course of the blood to and from the head; and from this cause there takes place a throbbing of the arteries, an undulatory motion in the jugular veins, lividity of the complexion, an unnatural prominence of the eyeballs, altogether occasioning an appearance of fulness of the face similar to that consequent to strangulation from any other cause; the accompanying sensations are pain of head, and generally in the ears, vertigo, sometimes indistinct vision, and confusion of mind, or even delirium; considerable pain is also often experienced in the tract of the spinal cord and parts adjacent, from the cervix downwards."

The constitutional symptoms correspond with the progress of the complaint, being those of acute local inflammation in the first instance, and afterwards partaking of the united characters of the irritability and exhaustation. Sometimes the inflammation is confined to one-half of the tongue, the raphé bounding it. The constitutional symptoms are then milder, and they are also modified, of course, by the circumstances of age, sex, &c. Glossitis terminates in resolution, suppuration, &c. like other inflammations. When the inflammation of the mucous membrane has been excessive, an expansion of lymph has been formed, as in croup. A case of this kind has been recorded by Frank, who refers to a preparation of similar result of glossitis in the museum of Hunter. The period during which glossitis continues will, of course, vary, but resolution seldom takes

place before the fifth or sixth day. The local and general symptoms progressively pass away. The following case is transcribed by Mr. Kerr, the writer of the article from Frank.

Case. "A healthy youth, nineteen years of age, was suddenly attacked with febrile symptoms, together with pain in the head and throat, difficulty of deglutition, and cough: these having been neglected, increased, and during the night he experienced very acute pain at the end of the tongue, increasing in extent and severity with its progressive swelling, which was rapid and considerable, filling the whole cavity of the mouth, and rendering him unable to articulate. The following day he complained of pain in the head, especially towards the forehead, with increase of sensibility of the eye to the impression of light; the tongue was remarkable for its red colour, increase of size, rigidity and heat; the patient could neither draw it inwards nor extend it; the sublingual glands and tonsils, were tumefied; he was incapable of speech and deglutition; complained of great thirst, had a dry burning skin, and a frequent strong pulse. Copious perspiration of a sour odour came on in the night, the swelling of the tongue and tonsils subsided, and with it the febrile symptoms; the tongue became moist, deglutition easy, and the following day restoration to health seemed to be established."

Suppuration is attended with the usual constitutional symptoms attending that termination of inflammation. If the pus is deeply imbedded in the substance of the organ, no relief takes place; because, there being little cellular membrane, the included pus exercises much pressure, and is not diffused. In this, as in subfacial suppuration, no time should be lost in giving exit to the matter. Gangrene is a very rare consequence of glossitis, and has only happened in very debilitated constitutions. It has been observed that the separation of the mortified from the living parts is particularly rapid.

"Idiopathic glossitis must at all times be considered a very formidable disease, and the degree of danger, in a previously healthy subject, will be proportionate to the obstacle which the tumefied organ may present to respiration, and to the opportunity which may be offered of subduing the inflammation on which it depends. From active treatment in the early stage, a favourable issue may reasonably be anticipated, particularly if a mitigation of symptoms is seen to follow the successive application of remedial means; but if the disease be neglected in the early stage, or the volume of the tongue increase, in resistance to the measures resorted to, respiration will be performed with proportionably greater difficulty, threatening extreme danger to life by suffocation; and in persons predisposed to apoplexy, or other cerebral disease, in an additional degree, by the impediment occasioned to the free return of blood from the head, and the consequent aggravation of these diseases. Diminution in the volume of the tongue, whether by artificial means directly applied, or through the medium of the system, will proportionately subtract from the danger and increase the rational hopes of recovery; but if the inflammation should have proceeded to gangrene, the danger to life will be influenced by the probability presented by constitutional circumstances of arresting its progress, and, when effected, by the extent of the mortified part; the tongue being the organ of taste, and necessary to the perfection of speech, of mastication, and of deglutition, these functions will be affected commensurately with the local destruction."

With respect to treatment, we need scarcely say that it should be actively antiphlogistic in principle, and we leave it to the practitioner to supply the detail; his judgment must seize, combine, or separate general and local bleeding—purgatives and stimulating enemata—diaphoretics—pediluvia, &c. After leeching, a piece of ice in the mouth is recommended—as is a blister early applied round the throat. But there is a powerful means of relief yet unmentioned, we allude to free and deep scarifi-

cations, made from the base to the apex of the tongue, but clear of the ranine arteries.

"Several instances of the advantage of incisions in extreme enlargements of the tongue have been transmitted to us by M. de la Malle.* Camerarius has recorded a case in which the patient was rescued from impending death by this operation; and Zacutus Lusitanus, another of a child, ten years of age, where the usual remedies had failed of affording relief, and the symptoms yielded to deep scarifications. Job a Meckoen, a Dutch surgeon, who lived in the seventeenth century,† adopted this practice on several occasions with the most complete success; and it is probable, as Mr. Samuel Cooper has remarked, that a fatal issue from suffocation, consequent to various kinds of enlargement of the tongue, might in many instances have been averted by its timely adoption. In the twenty-eighth volume of the Edinburgh Medical and Surgical Journal, page 77, an interesting case of the disease is recorded, in which the free use of the scalpel was attended with the best effects; allowing an exit for puriform matter. In the twenty-first volume of the same work, page 135, there is another case, illustrative of the advantage of incisions of the tongue, in a case of its inflammation, apparently consequent to suppression of the menstrual discharge from exposure to cold."

Incisions, however, have failed. A case in which they did so occurred at the Winchester Hospital, and is related in the Lancet, Vol. II. for 1827. When incisions fail, bronchotomy yet offers a chance of life. A successful case of this description is recorded by Mr. Benjamin Bell. Mr. Kerr observes that Desault would have preferred the introduction of an elastic gum catheter from the nose into the trachea. We conceive that, were this actually necessary, it would be objectionable on account of the extreme irritability of the parts. It might be tried. When suppuration has occurred, the pus should be freely let out with a lancet or scalpel. A deep incision may be sometimes necessary. In a case reported in the Glasgow Journal, by Mr. Orgill, two incisions, half an inch deep, were made, from as far back as the scalpel could be made to reach to the tip of the tongue. In the evening still deeper scarifications were made, and on the next day, the tip of the tongue being livid, an incision an inch deep was made with a scalpel, and a gush of matter took place. In eight days the patient was well.

After the evacuation of the pus, Mr. Kerr recommends the employment of merely a gargle of honey and barley-water, though it may sometimes be necessary to resort to astringents and detergents.

* Mém. de l'Acad. de Chirurgie, vol. v.

† Dict. des Sciences Méd. Art. *Glossite.*

LV.

ENORMOUS TUMOR ATTACHED TO THE ILIUM.

CHRISTIAN MASSON, aged 52, unmarried, about 14 years ago had a very severe fall upon the ice, by which her left hip was cut and contused. Soon after a small tumour made its appearance in the seat of the injury, and gradually acquired the enormous bulk undernoted. It originates at the lower half of the left os ilium, going rather farther back than the great trochanter of the left thigh; it is firmly attached by its neck as far forward as the symphisis pubis; it proceeds downwards in front of the thigh (the attachment being in the line of the rectus muscle), until about three inches above the linea. It spreads out (being of an enormous bulk) until it ends behind the great trochanter, as formerly stated, all this part being, comparatively speaking, free and loose, so that, when seated on a chair of ordinary height, the bulky part of the tumor more than touches the floor. I find that, at its upper attachment, it measures in length two feet; that a line drawn from the centre, at the upper middle part of the os ilium, and carried

round the tumor at this place, measures 3 ft. 5 in., and that a line drawn from its attachment at the great trochanter, and carried round its outer edge all the way, measures 7 ft. 5 in. The tumor is probably steatomatous, but apparently containing matter of every degree of consistence, from the most condensed fat to the softest pappy or lardaceous substance; its surface is traversed in all directions by tortuous vessels, some of a very large size, and there is a great cleft towards the inner and middle part of it, which she ascribes to its striking on the other thigh and knee when she was able to walk. She is now unable to move, and with difficulty turned in bed; she does not complain of much pain, but of great itching, and a sensation as if insects were moving through the tumor; it seems to incommode her most by its bulk and weight. Her general health is now very indifferent; her pulse quick and feeble; she is affected with almost constant dyspnœa; her face sallow: left leg and foot anasarcous; yet her appetite is pretty good, and her bowels regular. The menses finally ceased about a year ago.

I have often been solicited by the woman and her friends to remove this tumor (which I conceive cannot weigh less than 100 lbs.) by operation, but always declined, from dread of the event; which dread has been increased by a knowledge of the fate of Hoo Loo, the Chinese, operated upon in Guy's Hospital last Summer.

J. BELL.

Forres, Aug. 22d, 1832.

We perfectly coincede with Mr. Bell, in his repugnance to operating on this poor woman. When we consider the great size of the tumor at its attachment, the large vessels supplying it, the age of the patient, and her state of health, we think the chances of recovery from an operation so very slight, as to preclude any prudent man from employing the knife. It is true that the woman must die, if the tumor be allowed to remain; but when we consider that she has attained the age of 52, and reflect that all unsuccessful operations bring a certain degree of discredit on surgery, and perhaps deter patients from submitting to the knife when they might really be benefited by it, we must again express our decided conviction of the judgment and propriety of Mr. Bell's determination.

LVI.

MR. CRAMPTON ON INFLAMMATION OF THE BRAIN AND ITS MEMBRANES.

IN the Number of the Dublin Journal for September, were some valuable observations, by Mr. Crampton, upon Injuries of the Head. We had the pleasure of introducing those observations to the notice of our readers, and we feel gratified by observing a continuation of them, in the Number of the same able Journal for November. We trust that this will not be the last, as it has not been the first, occasion for expressing our approbation of the candid manner in which Mr. Crampton lays the results of his extensive and varied experience before the public. Would that the generous example were more widely followed than it is.

The subject of Mr. Crampton's present paper is acute inflammation of the brain. The subject is one of equal interest to surgeon and physician, too often one of equal difficulty. Mr. Crampton is one of that practical class of surgeons, who look upon inflammation of the brain as inflammation of the brain, and while they admire the bold and clever generalizations of the French, lament that *they* cannot find them confirmed by Nature. In other words, Mr. Crampton agrees with those, who acknowledge themselves unable to distinguish with nicety between inflammation of the substance and inflammation of the meninges of the brain. Accordingly, by the term, inflammation of the brain, he implies inflammation of the parts included within the encephalon generally. Premising thus much, we may pass on.

Mr. Crampton's object in the present paper, if we rightly understand it, is rather

to shew that Nature does not altogether support our current notions, than to establish, by deranged facts, any previously-admitted principle, or to build, on an inductive basis, a new one. We will give an abridgment of Mr. Crampton's cases, and then our readers may judge for themselves.

Case 1. Mr. J. Cooper, æt. 17, strong and healthy, indulged more than usual in gymnastic exercises on the 11th March, 1832. On the following day he went to a heated church, and consequently dined out. At midnight he awoke with an excruciating pain in the left eye-ball, and felt as though the eye must burst. Next morning he was seen by a gentleman, who ordered him some purgative medicine. The pain was severe throughout the day, but was relieved in the evening after the operation of the physic. During the night it returned, and next morning he requested the application of leeches. Twelve were applied, but they had scarcely fallen off when the pain became more violent—he raved—imagined that the gymnastic pole was pressing against his back—and sometimes almost screamed with agony. At 6, p. m. he was seen by Mr. Crampton, who found him thus:

"He was lying on his right side, his eyes closed, his mouth half open, and his head thrown backwards; his face was deadly pale, (the leech-holes were still bleeding,) the breathing not hurried, but he moaned almost incessantly, like one who is suffering in his sleep. Sometimes he cried out with a voice of agony, 'Oh dear, oh dear, what shall I do?' and then muttered indistinctly. When roused, however, he was perfectly rational, but was impatient of being questioned; sometimes, when spoken to, tossing himself to the far side of the bed, and hiding his head in the bed-clothes. On being questioned, he said, 'the pain had left his eye, and had settled in the back of the neck,' where the slightest pressure seemed to cause severe pain. In short, his whole aspect and manner was that of a person who had received a severe blow or fall on the head, and who was beginning to awake from the deep coma of *concussion*. The pulse was 84, soft and regular while he remained at rest, *but it rose to* 120 *when he moved, or was raised in the bed*, establishing another remarkable resemblance in the symptoms to those attendant on concussion: skin hot and moist. Bowels had been moved three times; urine natural. Twenty ounces of blood were ordered to be taken from the back of the neck by cupping; two grains of calomel every hour; a cold lotion to the shaved scalp."

Next morning, at 9 a.m. Mr. Colles was added to the consultation. He was much the same, but had some appearance of collapse. He had raved much during the night and was much more comatose, but he could be roused when s ken to loudly, and then conversed rationally though reluctantly. Pulse 100, soft, regular, more frequent on motion—hearing obviously impaired—his mother thought he was blind—pupils fixed, of medium size. *Forty leeches to the forehead and temples—blisters to the nucha. P. c. cal. et pulv. Dov.* At 6, p.m. deep coma—perspiration—pulse 140, small. At 10, p.m. respirations 70 in the minute and stertorous—frothy mucus flowing from the mouth—radial pulse extinct. At 9, a.m. of the following morning, 80 hours from the commencement of the pain in the eye, he died.

"*Inspection* 22 *hours after death.* On raising the dura mater, the whole surface of the hemispheres appeared of a pale greenish colour, in consequence of the effusion of a thick green-coloured pus beneath the arachnoid: that membrane preserved its normal structure and transparency, but the pia mater was highly vascular, and its surface flocculent; the more fluid purulent matter was intermixed with portions of a greenish matter of some consistence, which might be called adventitious membrane: this substance chiefly followed the course of the sulci which separate the convolutions, dipping between them to the depth of half an inch. The chief seats of the purulent effusion were the inferior surface of the anterior lobes of the cerebrum, the whole of the base of the brain and the cerebellum, but especially the pons and medulla oblongata.

On squeezing the pituitary gland, two or three drops of perulent matter escaped through the cut extremity of the infundibulum; the brain itself was of a natural colour and consistence, but appeared to me more vascular than the healthy state; there were about two ounces of limpid fluid in the ventricles; the choroid plexus was unusually pale."

Mr. Crampton thinks the following circumstances most worthy of notice.

"1st.—The absence of '*delirium ferox*,' *convulsions*, or *paralysis*, either spasmodic or atonic symptoms, which are described by nosologists as essentially characterizing inflammation of the brain, or its membranes.

2nd.—The resemblance with the whole assemblage of symptoms presents to those which are usually thought to denote concussion of the brain, from external violence."

We bow to the authority of Mr. Crampton, and yet we would fain persuade ourselves that the assemblage of symptoms, as recorded, does differ in some important respects from those thought to denote concussion. In this case there was excruciating pain in the head, only obscured by obscured sensibility—on the second day there was raving and delirium, the patient imagining himself pressed and injured by what was not near him—and the skin was hot. On the third day still delirium—coma—impaired hearing—probable blindness—fixed pupils. In the evening deep coma and stertor, with the pulse 140. On the following morning death. We have not seen a tithe of the cases which Mr. Crampton must have witnessed, but certainly we have seen no case of mere concussion like this, nor, so far as we can judge, do the ordinary descriptions of concussion tally with it. Such symptoms *after* concussion indeed, we have seen, and have seen them prove fatal; but they marked inflammation of the brain, and such has been found on dissection. In the present instance we cannot but express our surprise as well as our regret, that so little should have been done by the gentleman in attendance previously to Mr. Crampton. It is surely not good practice to allow most intense and fixed pain in any part of the head to remain hour after hour without a recurrence to local or general depletion.

Case 2. Mark Moore, æt. 10, an intelligent and delicate boy was attacked while travelling in Wales, with intense pain in the head, accompanied by vomiting and somnolency. Mr. Crampton saw him fifteen hours after the commencement of the attack.

"He lay on his side, with his head thrown back and his eyes half closed; the face flushed but without a circumscribed patch of red on the cheek; he moaned almost incessantly, sometimes shrieked, started up on his seat, looked about wildly, and then tossed himself to the opposite side of the bed. Pulse 120; skin hot, but moist; tongue white in the middle and bright red at the edges; stomach irritable; bowels constipated." "It appeared to me that I had to deal with an acute inflammation of the brain, and I took my measures accordingly. I opened on the instant the jugular vein, and took away at least twelve ounces of blood; twenty leeches were applied to the forehead, and an iced lotion to the shaved head; two grains of calomel and one of Dover's powder every two hours; iced barley-water for nourishment. The symptoms were completely relieved for six hours, but returned at the expiration of that period, with increased violence. The bleeding was repeated at midnight, and leeches were applied in relays, twenty at a time, so as to keep up a continued flow of blood from the skin of the head. The inflammatory symptoms, accompanied with delirium, recurred five successive times, at the intervals of 6, 5, 10, 11, and 14 hours; the bleeding was repeated on each of these occasions, and on the eve of the fourth day the system was brought fully under the influence of mercury. The recovery was rapid and complete. The patient is now, after an interval of eighteen years, in the enjoyment of perfect health. I had the advantage of Doctor Cheyne's valuable assistance in the treatment of this important case, after the second day."

Here was a case really similar in many respects to the preceding, and, beyond question, one of cerebral inflammation. It would puzzle us to point out much resemblance between the features of such a case and those of concussion. Mr. Crampton acted promptly and boldly, and the result displays in a striking manner the beneficial consequences of early and judicious vigour in the treatment of these dangerous forms of disease.

In Mr. Crampton's preceding communication he related the case of Fagan, a pipe-maker, which case we detailed in the last number of this Journal, at page 512 et seq. Circumstances worthy of record have since occurred, and Mr. Crampton resumes his report in the present paper. In order that our readers may understand Mr. C. we will recapitulate a few of the previous particulars of the case, referring our readers for the details to our last number. The man was wounded in the head with a dragoon's sword, for dragoons, in Ireland, appear to take great liberties. The skull was fractured, the membranes wounded, and the brain protruded. On the eight day he was attacked with convulsions followed by stupor. A portion of the bone was removed by Hey's saw. The convulsions gradually passed away, but fungus cerebri appeared on the 10th day. In 24 days this had disappeared, and in 11 days after this the wound was healed. In a fortnight more Fagan was discharged and resumed his employment. He was unable to remember the names of things. At this point the last report ended.

After this man was discharged, he led a very irregular life, suffering after each debauch from severe pain in the head. On the 22d of August (he was discharged on the 15th May) he nearly lost all power in the right arm and hand, and the right side of the face was paralyzed. On the 24th he was re-admitted.

"The following statement is abridged from the hospital journal: John Fagan re-admitted August 24th, complaining of severe pain in the state of the original wound; and although his head pain is not constant, the paroxysms recur several times in an hour, and last for two or three minutes; vomits occasionally; vision indistinct; pupils dilated, and very sluggish; strength and sensibility of the right arm and leg much diminished; pulse 100, soft and easily compressible; tongue clean; bowels free; memory very defective, particularly with respect to names and recent events; but the defect is not confined to the faculty of memory, as, with few exceptions, he cannot repeat proper names, but misc als almost every thing; although he can perfectly describe the use of it, he calls, for instance, a watch, a gate; a book, a pipe, &c.; a pipe is the word he pronounces most frequently; it is remarkable, however, that the moment he employs a wrong word he is conscious of his mistake, and is most anxious to correct it. The cicatrix of the wound, which is six inches long, and half an inch broad, is *raised*, particularly at its centre, above the level of the scalp; it is of a purplish red colour, tense, and shining, very painful to the touch; and at the centre, which is the softest and most prominent part, there is a strong pulsation, obviously synchronous with the radial pulse.

26th. Yesterday had severe paroysms of pain, accompanied with grinding of the teeth and contortions of the features, and succeeded by complete insensibility, which lasted for five or six minutes, during which time the pulse fell to 50 in a minute. Twenty leeches were applied round the cicatrix, a blister to the nape of the neck, and a cold lotion to the head; purgative pills.

27th. No return of paroxysms; pain relieved.

28th. Several paroxysms of convulsion, followed by stupor; cicatrix more tense and red, but the fluid which it covers disappears on pressure, and returns when the pressure is removed; pulse 72, and regular; tongue foul; bowels open. Continued to improve; paroxysms becoming less frequent until the 4th of September, when he had violent vomiting followed by convulsion, after which he remained insensible for several hours; pupils dilated; pulse 54; respiration natural; a small opening was made into the prom-

inent part of the cicatrix, and two drachms of healthy pus were discharged; *the pulse immediately rose to* 68; *he sat up in the bed, answered questions rationally, and said he was quite free from pain.*

7th. Continued free from pain or convulsion; the little opening is healed, and the tumour is as large as before; a larger opening was made into it, and a small quantity (about half a drachm) of bloody serum was discharged.

Oct. 9th. Has had no pain or convulsion since the 4th of September, when the abscess was opened; he appears in perfect bodily health, with the exception of some remaining weakness in the right arm and hand, and some slight confusion of vision; the cicatrix is perfectly on a level with the head, and there is no sensible pulsation in the seat of the former abscess; the mental phenomena are as before described, and are most remarkable; he speaks correctly, and even fluently; describes his sensations with great clearness, but avoids all proper names, he says, (for example,) 'I have a great weakness and numbness here,' (pointing to his shoulder,) 'and along here,' (drawing his finger along the arm to the palm of the hand; 'but no pain.' 'When I sit up suddenly I don't see rightly; but I soon see as well as ever.' He counted 5 on his fingers; but could not say the word 'finger,' though he made many attempts to do so. He called his thumb, 'friend.' When desired to say 'stir-about,' he said, and invariably says, 'buttermilk;' but was immediately conscious of his error, and said, 'I know that's not the name of it.' Sometimes (as in the last instance) one could trace the association of ideas through which he was led to the misnomer: stirabout and buttermilk being associated in the mind of every man of his class in this country; but in the greater number of instances, no such association could be traced; but this should excite no surprise, as the disturbing cause, which was of sufficient force to dissociate the idea of the *name* from the *thing*, would, naturally enough, be sufficient to disturb the faculty of 'association." Generally, these experiments, if they may be so called, were performed in the presence of Dr. Marsh, and a great number of the pupils of the hospital."

On these cases Mr. Crampton makes the following remarks.

"Considered separately, these cases possess but slight claims to attention, either on the ground of their singularity or of their furnishing any new views with respect to the pathology or treatment, of diseases and injuries of the brain. It appears to me, however, that when viewed in connexion with one another, they acquire some degree of importance. By placing a case of acute inflammation of the brain arising from external violence, and therefore probably complicated with some other organic lesion, beside a case of acute inflammation, arising idiopathically, we are the better able to compare the symptoms of each with the other, and separate those which are the proper signs of inflammation from those which belong either to *concussion* or *compression* of the brain.

In the instance of Fagan, (for example,) the symptoms in the early part of the case, though less acute, were of the same character as those which occurred in the case of Mr. Cowper; we had in both violent pain of the head, great nervous irritability, followed by stupor, and that peculiar kind of delirium in which the patient seems like one talking in their sleep, from which, however, they can be roused into perfect, though transient rationality. In both the pulse was quick, and the skin hot. In the case of Mr. Cowper, the inflammation terminated in *the effusion of purulent matter, generally on the surface of the brain, and of serous fluid into the ventricles*, and this was attended with blindness, deafness, and derangement of the functions of life generally; but there were neither convulsions nor paralysis. In the case of Fagan, the inflammation terminated in *circumscribed abscess on the surface, or within* the substance of the brain, and *then* appeared the symptoms which denote *irritation* and *compression* of that organ: namely, convulsion, followed by stupor, paralysis of the side opposite to that on which the injury has been inflicted, destruction or

suspension of one or more of the intellectual functions. That these were the proper signs of *compression*, (as distinguished from *inflammation* or *concussion*,) appears from the fact, that the moment the compressing cause was removed by the evacuation of the matter, the symptoms disappeared.

Should these views be confirmed by numerous observations collected from various and independent sources, one important step will have been made towards elucidating the pathology of the brain."

It will be observed, that we do not much condense cases of this description with the practical remarks appended to them. We look upon them as written cliniques, the advantage consisting in the discrimination of minute features, and comments on the subtler phenomena of disease. To fuse these into a consistent mass, would evidently be to destroy them. In conclusion, we trust that Mr. Crampton will continue to favour the profession with such cases and such observations, and perhaps he will pardon us for again hinting, that the greatest service he can render the state is by communicating facts, digested, arranged, compared, and reasoned on. A man of Mr. Crampton's surgical calibre *must*, now he is embarked in the publication of his experience, go on. He and his coadjutors, Mr. Colles and the rest, must recollect that Ireland is looked upon as slothful. Like Sampson, they have the power of the strong man;—but why, like Sampson, should they sink before the Dalilah of indolence?

By the way, Mr. Crampton explains away an expression in his last communication, on which we took the liberty of commenting. The explanation in question is perfectly satisfactory, and we beg to thank Mr. C. for the handsome compliment which he pays us. None can entertain a more high opinion than we do of the Irish surgeons, and it is because we wish them well that we stimulate them thus.

Macte virtute.

LVII.

THE ELEMENTS OF ANATOMY. By JONES QUAIN, B. M. Professor of Anatomy and Physiology in the University of London. Second Edition, 8vo, pp. 812. John Taylor, London, 1832.

WE would fain persuade ourselves that a new æra is dawning on medical education in this country. Within these few years a revolution has taken place in our schools, and we do not yet perceive its ultimate consequences, though the shadow of coming events may possibly be apparent. It is especially in the teaching of anatomy that we anticipate great changes. In 1828, that excellent anatomist of Edinburgh, Mr. Knox, published his translation of Cloquet's System of Anatomy. Much about the same time there appeared the first edition of the present work of Mr. Quain; and Mr. Bransby Cooper's Anatomy is but just completed. It would be invidious in us to compare these works, but we may safely assert that each is possessed of merits of a high order, and in former days would certainly have conferred upon its author a degree of reputation, that modern intelligence and modern competition must necessarily conspire to diminish.

There is one leading feature in which M. Cloquet's volume differs from both Mr. Quain's and Mr. Cooper's. It is strictly confined to descriptive anatomy, and contains little general anatomy, and no references to the modes of performing surgical operations. We must say that, on the whole, we feel disposed to prefer this method, and we imagine that it is better to leave the directions for tying arteries, and performing other surgical operations to works especially devoted to their consideration. By this separation either subject is considered more fully, rigorously, and systematically, and a taste for minute observation and precise reasoning is consequently generated in the student. It is fair to state that persons well acquainted with the teaching of anatomy think differently, and it must be allowed that the means of many are so scant, as to make them of necessity prefer

those works which convey the most general information.

Differences then exist in the plan on which anatomical systems are at present constructed, but descriptive and general anatomy are more carefully taught in all. Whether we look to the pages of Mr. Quain, Mr. Cooper, or M. Cloquet, we find a degree of precision and minuteness in their descriptions, which reflect great credit on the present state of anatomical science. It would not be difficult to shew that this is mainly, if not altogether, owing to continental influence, and that the exact and methodic character of French anatomists has modified the rambling and discursive manner of our own. Two of the systems of anatomy to which we have made such frequent reference, have been greatly indebted to those of Meckel, Boyer, and Cloquet. Of this there can be no doubt, and we repeat that the improvements which seem to us to be now taking place in anatomical instruction in Great Britain, have their source in the schools of France and Germany.

The most opportune occurrence for medical science in this country is the passing of the anatomical act. It is a lever of which we can scarcely estimate the power. Even now its advantages are apparent in the great schools, and when it comes fairly into operation, and works, as it no doubt ultimately will do, well, we anticipate a new order of students and practitioners. Anatomy will then be taught from the body, and the profession will no longer be scandalized, by seeing crowds of young men just learn enough from plates and the diagram board, to get through the examination of the College of Surgeons. But this is not all, it is but the beginning of the end. We do not pretend to the gift of prophecy, but we feel assured, that before many years have passed away, great changes will occur in other departments of medical education.

A sufficient proof of the popularity of Mr. Quain's book may be found in the fact of a second edition being called for thus early. This edition is much augmented in size, and, what is better, proportionately increased in value. Having formerly noticed the first edition, we need not again display the plan adopted by Mr. Quain, but we will advert to a passage or two in his prefatory address to the reader. Mr. Quain has asked, "what is the true method of study?" and thus he proceeds to reply.

"The objects of study, from their very nature, must present themselves in different points of view, and require different methods of investigation. Thus you may consider the situation, form, and size of a given organ, and then its relations to contiguous parts. When you have stated all the facts relative to these points, you have given a description of the part, inasmuch as you have followed the *descriptive method;* and this is all that is usually done in works on Descriptive Anatomy; they give merely the topography of parts. It must be obvious that it is not sufficient for our purposes thus to confine attention to the surface of things; our inquiries are not to be limited to external qualities, or mere relations of place. We desire to become acquainted with the composition and structure of the human frame, or in other words, with the elements of which it is made up. With this view, we resolve into its constituents, and then examine the character and properties of each of these separately, as a necessary preliminary to a just appreciation of their powers when combined. This is the *analytical method.* Its application and use have been already pointed out in the remarks on General Anatomy.

As the phenomena included in a particular function, or in the derangement of it, do not present themselves to us at once, but occur in succession, it becomes necessary not merely to enumerate them, but to set them down in the exact order of their occurrence. When treating of the digestive function, for instance, we have to consider the mechanism employed in the prehension and mastication of food, its impregnation with saliva, its deglutition and conveyance to the stomach, the changes which the mass undergoes in that viscus, and afterwards successively as it passes, step by step,

through the different parts of the alimentary canal. When these particulars are fully stated, the narrative is complete, and we have conformed to what is termed the *historical method*.

We cannot, however, confine ourselves to a mere statement of facts, or an enumeration of events. The very constitution of our minds compels us to draw inferences from the facts we have observed; we cannot help thinking, and to think is to theorise. This we at once recognise as the starting-place of all the speculative views and visionary opinions which the history of medicine records; and, unhappily, they are but too numerous: some of them evidently flow from the disposition so constantly manifested to deduce general principles from the inadequate data; others referable to that proneness which persons evince, when entering on speculations concerning the phenomena of life and the functions of living beings, to carry with them, and even rigorously apply, notions and principles taken from such pursuits as had previously, and perhaps exclusively, engaged their attention. Hence it is that the Philosophers of old introduced into medicine their peculiar hypotheses, the Heathen priests tinctured it with their superstitious rites; whilst, in more modern times, the Mechanists sought to explain the functions of the body in health, and its derangements in disease, by principles deduced from hydraulics, and the Chemists referred them to the affinities which govern the processes they were wont to observe in their laboratories." xi.

After quoting from the Novum Organum of Lord Bacon a short exposition of the inductive method, introduced by that greatest of revolutionists. Mr. Quain continues thus:—

"This is the *inductive method*, as taught by Bacon. To observe patiently, experiment cautiously, and generalise slowly, are the precepts it enjoins for the guidance of our own researches, and the tests which it suggests for estimating the value of the opinions and researches of others. The bias of prepossession and the influence of authority have for too long a time led away the mind from a conformity with its precepts: but happily these disturbing causes have now nearly passed away; for in our schools no general theory is taught—no uncompromising dogma is inculcated—no individual, however eminent he may be, can draw after him a crowd of followers ready to take his dictum as law, and resolved, when they set forward in life, to make their practice square with his injunctions; in a word, there no longer exists a monarchy in medicine; and were we to look back to the history of those times in which the men of that profession were little else than the obsequious followers of a few distinguished individuals, we should find little reason to regret that their dynasty is at an end. And let not this excite surprise or regret—it should rather be a ground of satisfaction and gratulation, inasmuch as it has arisen, not from any causes tending to depress the few, but from the wide spread of knowledge, which has tended to elevate the many. There never was a period in the history of medicine in which there was less to discourage inquiry than the present—there never was a time in which so many circumstances conspired to invite a scrutiny into all its departments. The mind is no longer prostrated by the domination of authority, nor is reason warped by the influence of system. The errors of preceding inquirers are so many beacons to warn those who succeed from straying into the devious tracts into which they wandered, and the failure of their methods of investigation points to the necessity of pursuing a different line of research from that which they adopted. Speculation and hypothesis have reigned too long; it has been too much the practice of system-makers to construct their edifices, if I may so say, 'from their own conceptions, and to draw from their own minds all the materials they employed.' Whilst notoriety, perhaps even distinction, could be attained by such compendious methods, we cannot feel surprise at the number of hypotheses which the history of medicine records, or at the fleeting credit they maintained. One heresy gave way to another,

and a third succeeded as short-lived as either of its predecessors. But, even at the present day, it is not a little difficult to repress speculation altogether, and confine inquiry within its legitimate bounds."

No observation can be more true than the preceding. Henceforward there is no monarchy in surgery or medicine, henceforward we are a republic, one and indivisible. There will always indeed be men who will excel their fellow men, but their superiority will not be one of mere talent over ignorance, but of great and solid attainments over less. We might shew that this is the case with surgery at present, and the man who now bears the most deservedly high reputation in this department of our profession, is one who has worked indefatigably in the study of facts, and proceeded as philosophically as cautiously in his deductions from them.

LVIII.

WHAT IS THE CONTAGION OF CHOLERA?

SUCH is the question that Dr. Kennedy of Ashby-de-la-Zouch, an able, learned, and practical physician, asked himself in a lecture delivered in the assembly rooms of that town. And how did Dr. Kennedy answer it? Did he say it was pestilent, furious, dire, and unsparing—that it ought to unite doctors of all degrees in owning it—journals of every colour in arointing it—that it ought to fright the isle from its propriety—shut the theatres and the hospitals and open the churches—that it ought to put our country in quarantine, and our parishes in cordons—that it ought, as the writer in the Quarterly recommended, to make families bar their doors, and import their provisions in iron buckets through the windows—or, that, owing to its presence, districts should be officially declared infected, and a sort of Italian "immondezzaio" be inscribed upon their outskirts? Dr. Kennedy said nothing of the kind. Well, then, did he laud preventive, we beg pardon, "precautionary" measures—did he think them a benefit to a poor, but *not* a pauperized population—did he weigh the commerce minus against the blankets plus, and find the balance in favour of the blankets—did he look at the bills of mortality, and see in them a salve for theoretic knocks? Oh no. Dr. Kennedy has done no such thing. He has written some sensible remarks upon contagion, which we quote.

"We cannot be required to show, by facts or arguments, that Cholera is *not* contagious, because attempts to prove a *negative* are self-evidently illogical and absurd. Should we, however, find ourselves justified in asserting that this pestilence *is* contagious, then we would necessarily undertake the responsibility of establishing our assertion. Moreover, common sense and science alike reject the assumption of an extraordinary cause for any circumstance or event, when what is ordinary will suffice to account for the results. Now, is it probable, is it possible, that the malignant principle of Cholera can be generated by other causes than contagion? You may reply in the affirmative without suspense of opinion, if the *state*--predisposition—be conceded; and, you may reply in the affirmative with confidence, because this fact rests on the most perfect demonstration—that many spontaneous and fatal explosions of Cholera have occurred in remote hamlets and cottages, whose inhabitants enjoyed complete exemption from intercourse with those of other places where the disease was prevalent. When, out of several persons all maintaining the same intimate and frequent communication with the sick of Cholera, and equally exposed to the influence of its known and reputed causes, one man alone of the entire group sustains an attack of the disease, it is the fashion to account for such a seizure by declaring authoritatively—that, among the whole of his associates, the seized One exclusively was in a state of *predisposition*, an imaginary state, the reality of which is altogether incapable of proof, by inference, analogy, or experiment. Many

persons are represented as having been infected with Cholera, chiefly in consequence of their predisposition to imbibe its elements; but, we look in vain for any thing resembling an attempt to show what this predisposition *is*—to prove, that predisposition was then existent. We must acknowledge, indeed, that very few of such patients exhibited discernible signs of difference between themselves and others who were more fortunate in resisting equal danger: besides, very few of these sufferers exhibited discernible signs indicating—that, at the time of being seized, any one of their own conditions was at all different from what it had been, for days or weeks, previously to the hour of their calamity. Many things there are, doubtless, which predispose mankind to sustain the inroads of mortal diseases; but, it is undeniable, that the something which predisposes us *exclusively* to Cholera, and the something which *is* Cholera, are equally and entirely unknown.

They who represent Cholera as an infectious pestilence, have carefully accumulated —as a means of confirming their theory— cases of persons who became ill, soon after having touched or used articles of dress or bed-clothes of those who were suffering or died of the disease,—and cases of persons who became ill, soon after being exposed to the influences of an atmosphere supposed to be impregnated with cholerous exhalations. Now, these cases are not numerous; and, though the whole of them were admitted as fair evidence, without scrutiny, they could reasonably be held for nothing more than so many exceptions to a general rule; and, consequently, they do not invalidate the doctrine which that rule goes to confirm. Rightly estimated, such cases prove this much, and nothing more; that— soon after being in the situation, or doing the things, ascribed to them—persons have been seized with Cholera; but, in these cases, we find no proof whatever that they were cholerous by contagion, or indeed by any other cause: the incident of one condition or action being merely subsequent in time to another of the same kind, can never authorize us philosophically to regard the latter as having been consequent on the former—to regard the two conditions or actions as standing in the relation of cause and effect. Moreover, many medical inquirers, zealous for the advancement of knowledge and the welfare of mankind— have voluntarily and experimentally placed themselves in close contact, in bed, with the dying and the dead of Cholera, have there inspired profusely the breath of their departing patients,—have inoculated themselves with the blood, perspiration, and other fluids of cholerous sufferers,—have endeavored, in every imaginable way, to impregnate themselves with the infection of this pestilence, —and, with very few exceptions indeed, these adventurous philanthropists sustained no injury from their remarkable experiments. Altogether, in fine, by these and many other facts which tend fairly to strengthen the same position, we are justified in esteeming the process to show that *Cholera* is *contagious*, as a palpable and perfect failure; and, in concluding that Cholera *generally* originates from other causes than contagion."

Dr. Kennedy does not declare cholera, absolutely non-contagious, but admits that it may be so under circumstances and with limitations. With this view he agrees with those, who, doubting, act as if it was contagious and use precautions against it. This is a specious doctrine, but may it not be mischievously enforced? In a matter of doubt it is better to act as if the worst were impending, with this proviso, that the measures we employ be not themselves so severe, so injurious as to form a serious addition to the evil itself. Now let us apply this maxim to quarantine. There can be no question that this is a cruel hindrance to commerce, a hindrance so keenly felt that it should not be applied unless there were a fair prospect of benefit accruing from it. What had experience told us before cholera reached these shores? It informed us that in all countries quarantine, much more rigorous than we could enforce, had proved entirely inefficacious. Well, this lesson of

experience was disregarded, and what was the consequence?—that cholera arrived, as it had arrived elsewhere, and that in addition to its ills, we had the depression of commerce and stagnation of trade dependent upon quarantine restrictions. In France —in Holland it has been the same. Now look to Spain and Portugal. In Spain quarantine is rigidly enforced, and the priests of despotism in every form, the Camarilla, have sagely, as wiser men in this land of freedom did before them, disregard all experience, and hoped to keep out cholera by law. In Portugal the force of events has been stronger than the force of prejudice, and the thunder of artillery has choked the cholera cry. Yet, in spite of all the unrestricted communication that exists between infected London and Glasgow, and uninfected Oporto—in spite of the volunteers from our poorer and therefore cholera-loved ranks, that enrol themselves for problematical liberty, and still more problematical pay—in spite of all this, there is yet no cholera at Oporto, whilst the obstinate and well-quarantined Dutchmen are affected with it. It is just a toss up which gets it first—Portugal or Spain. What we mean to say is this—that supposing cholera to be highly contagious, quarantine has been proved, by the experience of Asia, Europe, America, to be useless, and if useless, to be pernicious. We care not, for the sake of the argument, what may be the cause—whether the contagion be too subtle to be restrained by quarantine—or whether so many means of breaking through quarantine exist, that it becomes inefficient in that way—whether in short it be too little for the disease—or whether man by fraud, or force, or gold be too much for it—whether cholera come in by the smuggler, or Jove-like be conveyed in a shower of gold—it matters not whether any of these reasons be valid or none—the general result is against quarantine,—against this the first and last of "precautionary" measures, and practice has eternally damned it, if theory has not.

We hold it then to be a sophism in the case of cholera, to act as if it were contagious, even though we felt inclined to suspect that it were not so.

But there is another sophism that happens to have been applied to cholera, although it is in far more general use. It is a common observation that if one cause be adequate to explain a circumstance in medicine, it is unphilosophical to look for another. No remark can be more shallow, more absurd. Do we not find in life that there are many and very opposite obvious causes of disease? Is pleurisy always brought on by cold? Will not a very high temperature produce inflammation, and will not a very low one do the same? Nature abhors those petty ligatures that fools would fancy, and philosophers would forge, and she will not be trammelled by these logical refinements and scholastic subtleties. Our readers know that we are not of the class that sneer at philosophy, and see in vigour of expression, or exact discussion, nothing but rhetorical flourishes or useless refinements. But we would not willingly lay hold of the eel of science by the tail, nor would we substitute the scholastic forms of reasoning, for the substance of rigorous and inductive reasoning itself.

LIX.

LIGATURE OF THE SUBCLAVIAN ARTERY FOR SUBCLAVIAN ANEURISM.

THIS case is related in the *Lancet*, for Nov. 17, by the operator, Mr. Nicholls, senior surgeon of the Guardian's Dispensary, Norwich.

Early in April last, Miss N. æt. 21, residing near Norwich, consulted him respecting a pulsating tumour in her neck, which had commeneed after a sudden exertion of her left arm. On examination (says he), I found a tumour the size of a hen's egg, situated in the left side, occupying the triangular space which is bounded below by the clavicle, on the inner side by the clavicular portion of the mastoid muscle, and on the outer side by the anterior fibres of the trapezius, evidently the result of some injury

done to the subclavian artery, in that part of the canal which stretches from the edge of the scalenus muscle towards the axilla, before it has passed under the clavicle; indeed, so near the edge of the scalenus was the injury, that I was not able to compress the vessel with my thumb, between the muscle and the tumour." Mr. M. ordered rest and some aperient medicine, and, having obtained the young lady's consent, performed the operation of tying the subclavian, immediately external to the scalenus anticus, on the 30th April. As there are some peculiarities in the mode in which the operation was performed, we must give the operator's own descriptio .

"The patient was placed in a horizontal position on a table about three feet in height, having her head hanging over the end, and supported by an assistant. The integuments being drawn down, an incision was then made through the skin and platysma myoides, along the clavicle, three inches in length, from the outer fibres of the clavicular portion of the sterno-cleido-mastoideus, outwards: another incision was carried from the inner point of the former one, upwards along the clavicular portion of the sterno-cleido-mastoideus for four inches; this incision passed between the fasciculi of the platysma myoides, which, in this case, were remarkably large. The triangular flap formed by the two incisions was dissected back, carrying with it, imbedded in its substance, the external jugular vein, as far as the tumour would allow of its being done; and a little dissection now brought into view the omo-hyoideus at the upper part, passing obliquely upwards to its insertion. This muscle was divided, and a small artery passing across the wound immediately below it, was secured; the deep fascia of the neck was here exposed, having on the inner side the anterior scalenus beautifully distinct, and passing to its insertion into the tubercle of the rib. By slightly rotating the head, the different direction of its fibres from those of the sterno-cleido-mastoideus, became remarkably apparent, shewing how important at this stage of the operation it is, that this muscle should be your guide. The fascia was then cautiously divided along the outer edge of the scalenus, and the transverse artery of the neck drawn upwards by a blunt hook, whilst the large vein which accompanied it, but which crosses the wound considerably lower down, was secured by two silk ligatures, and divided. This enabled me to pass my finger along the scalenus to the tubercle of the rib, and to compress the artery where it leaves the chest, about half an inch above that process. The space, however, between the aneurismal tumour and the scalenus was so small, that it was thought advisable to divide a few of its fibres, in order the more readily and securely to tie the vessel. This having been done, a strong blunt aneurismal needle, armed with a silk ligature, was very readily passed under the artery from below, and its blunt extremity having been pressed upwards, I cut through the cellular tissue upon it, and thus passed the instrument without detaching the vessel from its connexions. The ligature was tied with great ease, and the tumour immediately subsided. All pulsation ceased from that time; the edges of the wound were brought together by means of a suture and some adhesive plaster, and the patient returned to her bed. She bore the operation with remarkable firmness throughout."

There is little in the subsequent occurrences to deserve notice. On the 5th day, the wound was dressed for the first time, and was partially healed. On the 12th day two of the ligatures came away—on the 14th the radial pulse returned—on the 21st day, the ligature on the subclavian separated—and, on the 24th, she is reported as cured. We are told that up to the present time (November), she continues to enjoy good health, and feels no inconvenience from the operation.

The circumstances to which Mr. Nicholls would direct attention are—1, the position of the patient during the operation—2, the turning back of the jugular vein, imbedded in the flap—3, the non-division of the clavicular origin of the sterno-cleido-mastoid

muscle—4, the drawing upwards of the transverse artery—5, the division and ligature of the transverse vein without bad consequences—and, 6, the ligature of the subclavian, beneath the outer fibres of the scalenus anticus. To these memorabilia, we would add the circumstance of so young a lady having an aneurism at all, and regret that the state of the tumour, subsequent to the operation, has not been more particularly noticed by Mr. Nicholls. We are told that, after tying the vessel, the tumour "immediately subsided." Did it subside entirely, or partially? This we are not told, and yet, to say the least, it would be interesting information—because, if the former, there could have been no coagulum in the aneurismal sac, and it must have been a dilatation only of the artery—if the latter, we ought to be acquainted with the final result.

We throw out these hints to Mr. Nicholls, believing him sincerely desirous of benefitting science by the publication of the case, and we think he will agree with us, that facts, to be really serviceable, should be perfectly explicit.

LX.

Death after the Introduction of the Catheter.

This case is related in the same Number of the *Lancet* which contains the preceding. We notice it for more reasons than one.

A sailor, æt. 45, had for some time been troubled with stricture, the difficulty of making water being greater at one time than another. In the morning of Sept. 10, he was brought into the London Hospital labouring under retention of urine, with urinous extravasation into the cellular membrane of the scrotum. The introduction of the catheter being impracticable, Mr. Scott "determined on laying open the membranous part of the urethra." The patient was placed in the position for lithotomy, and an incision, as in that operation, was made in the perinæum. A quart of urine was evacuated with relief. There was troublesome bleeding "from the corpus spongiosum," and it was only arrested by including in the ligature a portion of that structure. By this, and the application of cold water, the bleeding was arrested. The volatile alkali was given, and no further bad symptoms occurred. The urine flowed exclusively through the wound in the perinæum till the 2nd October, when a small quantity issued through the urethra. So matters continued till the 19th, when Mr. Scott, after much difficulty, passed a catheter into the bladder, and ordered it to be retained by tapes. At 11, a.m. of the 20th, it slipped out, and, on the 21st, the catheter was re-introduced. Early in the morning of the 23d, symptoms of "acute peritonitis" came on. The patient was ordered castor-oil and leeches, and the bowels not being opened, Mr. Scott directed house-medicine every half hour till they should be so, with calomel and Dover's powder every four hours. In the evening, leeches were again applied. On the 24th he felt much easier, but there was distressing and constant sickness. The bowels had not been opened since the preceding evening, and he was again ordered house-medicine every half hour till they should be so, to be succeeded by blue-pill and opium, and leeches. The greater portion of urine was passed by the urethra. Next morning he was extremely low, and at 3, a.m. of the 27th he died. The friends would not allow the body to be examined.

It would, perhaps, be idle to throw out many conjectures on the cause of death, certainty on that point being unattainable. But we may be permitted to express a doubt of the existence of peritonitis, to the extent imagined by the reporter. At least, the symptoms were very similar to what we see after lithotomy, and it is now pretty well ascertained, that diffuse inflammation of the cellular membrane of the pelvis is more frequent after that operation than pure peritonitis. Besides, we have seen a case very similar, in many respects, to that before us, in which dissection shewed no peritoneal inflammation. The case was that of

an elderly man, with a bad stricture. An instrument was with much difficulty passed, and the urine flowed. On the same evening, or next day, tenderness of the abdomen, with rapid pulse and hot skin, came on. The patient became worse, had vomiting and hiccup, but no rigor. It was thought that there might be mischief in the perinæum, and an incision was made there, but without any result. The man died. On examination, it was found that the instrument had made its way through the side of the urethra, into a cavity behind the neck of the bladder, containing pus. Whether this was, or was not, an old abscess, we cannot say, but certainly the pus thus locked up was the cause of the symptoms and death. Now we do not say that such was the case in Mr. Scott's patient, but we point out the similarity of the cases, and the probability, or, at all events, possibility, of a nearly similar state of things existing in both. We entertain no doubt that the introduction of the instrument, in Mr. Scott's case, was the exciting cause of the mischief, whatever that may have been.

But supposing peritonitis, as was thought, to have existed, we question the propriety of administering a drastic purge, like "house medicine," every half-hour, until it should operate. Are inflamed parts usually the better for such disturbance as this must necessarily have created? If Mr. Scott's patient had inflamed leg, would he set him to run about the ward for some five or ten minutes, in order to answer some end in view? We think not, and, though we may be wrong, we do not approve of the practice to which we have adverted.

A word on the operation at first resorted to, when the patient was affected with retention of urine. As it was determined to cut into the membranous part of the urethra, in the perinæum, might it not have been better to have finished the business, by endeavouring to establish the urethral channel at once? Mr. Scott might have commenced by introducing the staff, or other instrument, as far as it would go, cutting upon it, and following up the incision by dividing the strictured part of the urethra, and opening into the dilated membranous portion. Subsequently a catheter would have been retained in the bladder, and the fatal risk which the patient ultimately ran would have been avoided. It would have been avoided had the operation succeeded, and that would have been quite as likely to have done so, as the operation which Mr. Scott actually performed with temporary success. The procedure to which we have adverted is not merely a speculative one; Mr. Mayo has adopted it on several occasions with success, and we do think that surgeons should give it a trial, to establish fairly its merits or its faults.

LXI.

WOUNDS OF THE INTESTINES.

DR. WISE has inserted a paper on this interesting subject in the fifth volume of the Transactions of the Medical and Physical Society of Calcutta. We shall notice some facts related by Dr. Wise.

"In many cases of Hernia and Introsusception, in which the persons recovered, after portions of the intestine had sphacelated, it has been found that an adhesion took place between the parts of the peritoneal sac, naturally in contact with each other. By this mean, extravasation of the contents of the gut, and its fatal consequences, were prevented. In a case of strangulated Hernia, Mr. Hunter found that organized coagulated lymph had formed 24 hours after the operation had been performed. To set free the strictured portion, recourse is sometimes had to the same principle, for the cure of other diseases, as of hydrocele; but it appears that it might be employed with advantage in many cases, in which it is at present neglected. To prove this, experiments on the inferior animals have been instituted; and Dr. Thomson found, that a ligature may be passed round so as to encircle a piece of intestine, and drawn tight with impunity. This is found to be in consequence of the ligature dividing

the internal coats of the intestine, producing an adhesive inflammation between the two sides of the serous membrane, immediately above and below the ligature; and a slow ulcerative process, by which the ligature passes into the gut, and is discharged. In Introsusception the same adhesive process takes place between the two serous surfaces, at the commencement of the included portion, which is removed by a slow ulceration at the part where the enclosed joins the included portion. Mr. Jobert, an expert and judicious surgeon of Paris, performed a number of experiments on dogs, to discover to what extent this principle could be relied on. I assisted at some of these experiments, and as I believe they are not generally known, shall now relate the results obtained. Part of the stomach, and different portions of intestines, were exposed, and incisions made in different directions. The lips of the wounds were inverted, or if the Epiploon was near, a piece of it was placed between the lips and several stitches of the interrupted suture were made, including a small portion of the serous and submuscular coats, near the edges of the wound, so as to keep the two serous surfaces in contact; the gut was then returned, and the external wound closed. The dogs were killed at different periods after these experiments, when the wounds were found healed, without any extravasation having taken place of the contents of the gut. In other experiments, the gut was divided across; the serous coat of the inferior portion inverted, and the superior portion passed for a short distance within this. It was secured in this situation by the interrupted suture. The catgut ligatures divided near the knot, and the gut was returned into the abdomen. In these cases, adhesion took place in a few hours, and the animals quickly recovered without any unfavourable symptoms."

It is important to observe that the presence of the ligatures in the abdomen was productive of no ulterior inconvenience. Our readers may probably be aware that in a case in which Mr. Earle, we think, tied some vessels in protruded omentum, cut the ligatures short, and returned the whole into the abdomen, an abscess subsequently formed at the umbilicus, and by it the pieces of ligature were discharged. In the case of the intestine there is this great difference, that the ligature may, and in all probability often does, separate into the cavity of the gut. In an instance of wounded intestine Sir Astley Cooper included the wound in a ligature, cut both ends short, and returned the whole with success. The following two cases were similarly fortunate.

Case 1. A man, æt. 60, was brought to Bartholomew's Hospital, while Dr. Wise was house-surgeon with strangulated inguinal hernia, of large size, soft, and the seat of great pain in the neck of the tumor. Seven hours after the commencement of strangulation Mr. Lawrence operated, various means having been employed in the interim to produce reduction. On opening the sac about a foot and a half of small intestine, of a chocolate colour, was exposed. A small hard stricture was found high up in the sac, admitting the director with much difficulty. The stricture was removed, and the gut pulled down a little for the purpose of examination, when a gush of brown fluid took place from a small wound in it, apparently produced by the director. The wounded part was pinched up with a pair of small forceps, a fine ligature passed round beyond the points of the instrument, tied tight, and the extremities cut close to the knot, and the intestine returned into the abdomen. As there was a large mass of omentum slightly adherent, much of it was removed, and the rest left in the wound. Laxatives were given half an hour after the operation, and repeated till the bowels acted. The patient recovered without a bad symptom.

When the wound is more extensive the same principle is applicable. The next case occurred to M. Jule Cloquet, and is related by M. Jobert.*

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* *Memoire sur les Plaies du Canal Intestinal. Par A. Jobert, Paris*, 1826.

Case 2. "Nicolas Lejeune, aged 41 years; of a middle height, and spare habit; had a Congenital Hernia, which obliged him to wear a truss, as it had several times been strangulated, and was always reduced with difficulty. On the 13th of July, 1826, at ten o'clock, it became strangulated, without any apparent cause. After numerous ineffectual efforts to reduce the hernia, assisted by a surgeon, he was conveyed to the Hospital of St. Louis, five hours after the symptoms appeared. He was then found in the following state:—On the left side, a large, soft tumour descended from the inguinal region, and distended the scrotum. The patient had vomited, and complained of nausea and great thirst; the pulse was small and rapid; respiration frequent and short; great sensibility of the abdomen, with general prostration of the system. The foot-bath, local blood-letting, and the taxis, were employed, without success, and Mr. Cloquet proceeded to remove the stricture with the knife. A transverse portion of the skin, over the tumour, was pinched up, and divided across, for nearly two inches in extent. The fascia superficialis, the cremaster and dartos muscles being divided in the same direction, exposed the hernial sac, a portion of which was raised by the forceps, and a small perforation made into it, and enlarged by a pair of straight scissors. The portion of the intestine included in the hernia, was much inflamed, and distended. While two assistants removed the intestine to the side, Mr. Cloquet passed a bistoury, to divide the stricture, which he had discovered situated in the neck of the sac. He then tried to reduce the gut, but failed, and the bistoury was again introduced, to enlarge the stricture; as he was withdrawing the instrument, a portion of the intestine, held by one of the assistants, escaped, and was divided to the extent of an inch and a half. A quantity of gas and fluid escaped from the wound in the gut, which was found thickened to double its natural size. Two ligatures were passed through the lips of the wound in the intestine, about five lines from its edge, and when tightened, thus brought the serous surfaces together. The extremities of the ligatures were cut close to the intestine, which was then returned into the abdomen. Simple dressing was applied to the external wound, and secured by a T bandage. All the unfavourable symptoms disappeared; and the patient recovered."

The cases will probably be interesting to practical surgeons. We may add to the foregoing, the following instance of wound of the abdomen, though apparently not of the bowels, which we find related in another part of the same volume.

Mr. Thompson reported to the Medical Society a case of wound of the abdomen, which occurred in a Malay man, at Malacca. The wound was inflicted with a spear, which entered above the posterior spinous process of the left os ilii near the last dorsal vertebra; and came through the body, passing out at the linea semi-lunaris of the right side, two inches above the navel, where there was an opening an inch in length, at which a portion of omentum protruded. Very little blood was effused externally. Six hours after the injury was inflicted, the patient had violent pain in the belly, urgent thirst, vomiting, anxious countenance, a small weak pulse, and cold perspirations. The omentum was reduced, and the wounds closed by sutures. V. S. was attempted, but the man soon fainted: next day he was bled to 12 ozs.; leeches were ordered on account of painful tension of the belly; and a blister was applied to the abdomen. Enemas, and aperient medicines were administered repeatedly, until the bowels were freely opened. The unfavourable symptoms gradually subsided, and by the 16th day after the wound was inflicted, the patient was able to walk from his house, two miles to the hospital; the wounds were then in a good state, and affording every prospect of recovery. As no blood was observed in the stools, or in the matter vomited soon after the wound was inflicted; there seems reason to believe, that the spear passed through the body, quite across the belly, without wounding the intestines or stomach.

LXII.

LIGATURE OF THE CAROTID FOR HEMIPLEGIA AND EPILEPSY.

THERE is a curious paper on this subject by J. R. Preston, in the volume of the Calcutta Transactions, from which the preceding article was taken. We say curious, for the reasoning does appear to us to be extraordinary. It amounts to this, that ligature of the carotid is likely to be serviceable in cases of inflammation, congestion, irritation within the cranium, in our author's own words, in "apoplexy, phrenitis, hydrocephalus, many cases of injury of the head, palsy, epilepsy, and insanity." All this practical induction appears to be bottomed on the principle, that ligature of the carotid diminishes the volume of the blood sent to the head. Now this principle seems to us most futile. The cranium cannot be emptied, nor can the quantity of its contents be diminished. If we take blood out, something else must be sent in. But there is nothing else to supply, on the emergency, the place of blood. Therefore, if we tie one carotid, blood must pass in increased quantity by the other carotid and vertebrals, or, supposing these channels obstructed, it must flow back into the cranium by the veins, or remain stationary in them. This seems to us to be as clear as any demonstrable truth. The principle, therefore, on which Mr. Preston sets out is a false one. We may alter, and by our medicinal and surgical operations, we do alter, the disposition of the blood in the brain, the energy, or the rapidity with which it circulates, but its actual quantity, other things being the same, we do not, and we cannot alter.

There are other considerations to deter us from expecting benefit from ligature of the carotid in inflammation, congestion, or irritation of the brain. The operation itself is not a slight one, but, in a certain number of cases, would itself be the cause of death. We have no just grounds for concluding, that irritation of any part is removed by diminishing the quantity of blood sent to it. Is depletion useful in tic douloureux, or those nervous symptoms that occasionally follow amputation? Irritation, on the whole, is not benefitted by depletion, general or local, and yet it is on the principle (we have shewn its erroneousness) of lessening the quantity of blood sent to the brain, that Mr. Preston proposes ligature of the carotid for epilepsy.

After tying the vessel of a limb, we not unfrequently find that inflammation is set up in the limb below the ligature. After ligature of the femoral artery, we have seen a low inflammation, like chilblain, attack the foot. Numbness and nervous pain are frequent consequences of such an operation, and they often remain for a considerable time. Here, then, we see both inflammation and irritation the result of the ligature of an artery in the extremities. As we never saw the converse experiment made, that of tying the vessel for inflammation or irritation in an extremity, we cannot speak to its results. Now, then, if Mr. Preston were correct in his principle, that ligature of the carotid diminishes the quantity of blood in the brain, analogy would be against the application of that principle in the cases which he mentions. But, in fact, we do not conceive the analogy a fair one, because we do not admit the correctness of Mr. Preston's principle.

We will not pursue the reasoning any further. Mr. Preston may be manifestly wrong in his theory, and yet his practice may be good. Let us look at the facts themselves.

Case 1.—Ligature of the Common Carotid Artery for Hemiplegia.

Peter Rochford, æt. 50, king's pensioner, was admitted into hospital, Oct. 25th, with hemiplegia of the left side—some pain in the paralytic leg—circulation unaffected—skin cool. The symptoms came on during the preceding night. He had been a hard liver.

He was ordered a blister, calomel, iodine. On the 28th, the mouth was slightly affected —on the 29th, a seton—on Nov. 1st, the mouth sore, and the calomel omitted. On the 5th, sensation had returned in the arm

and leg, and there was much pain in the knee. On the 8th, more difficulty of speaking. Croton oil. On the 9th, better; he now took tinc. iodin. ℥xviij. 6tis horis. On the 13th, much the same. Nux vomica. On the 17th, some uneasiness in the liver, for which leeches were employed. On the 21st, much the same—pulse 72, and intermitting more frequently on the left than on the right side; an ulcer on the sacrum, from pressure.

On the 23d, Mr. Preston tied the right common carotid artery. He commenced the incision, three inches long, at the thyroid cartilage, and carried it *upwards*. He found the artery very deep, and tied it. Mr. Preston appears to have made his incision somewhat too high. This artery usually bifurcates at the upper border of the thyroid cartilage, and, therefore, an incision commencing opposite this cartilage, and carried upwards, must have had the common carotid quite at its inferior extremity, instead of near its centre. The common direction for securing the common carotid, in the upper part of its course, is to prolong the incision downwards to near the lower border of the cricoid cartilage.

On the 23d there was slight fever, some cough, and difficulty of swallowing. On the 24th, slight uneasiness in the side of the head. On the 25th rather more cough and uneasiness of the chest. Castor oil and opiated sudorifics. On December 1st, he was put on half diet. On the 4th, he could draw up the leg a little. He had much pain in the paralytic arm. On the 12th, he could walk about with the assistance of a stick. On this day the ligature came away. On the 21st, he "could walk about pretty well with the assistance of a stick." The arm seems to have continued paralysed, and he had much pain in it. On the 22d, the report ends.

Now we really see nothing whatever in this case to recommend the operation. Is it not common, we speak to practical men, is it it not common for patients affected with hemiplegia so mildly as this man was, to recover gradually some use of, not only the lower, but also the upper limb? To be sure it is. Hemiplegiacs may be seen creeping on with a stick in any of our public streets, in any of our public hospitals; and yet, after undergoing the pain and the risk of a formidable operation, Mr. Preston's patient is only reported to be "walking pretty well with a stick," his arm continuing paralysed. We venture to say that, with regular cathartics, slight mercurial action, and judicious and consistent counter-irritation, the man would have been as well, if not better, on the 22d of December, where Mr. Preston's report left him.

CASE 2.—*Ligature of the Common Carotid Artery for Epilepsy.*

Michael Cox, pensioner, æt. 25, had for five years been subject to severe epileptic fits, which generally recurred about once in a fortnight. He was first attacked while on duty at Burmah, after having been much exposed to the sun, and undergone extreme fatigue. Since the first seizure, the fits had generally occurred without assignable cause, but were occasionally induced by intemperance; he was unable to drink as much liquor as European soldiers usually do, a very small quantity producing giddiness, &c. He had frequently been bled, but no other treatment appeared to have been adopted.

Mr. Preston performed the operation on the 4th February, and was obliged to bleed him during its performance, in consequence of a threatening of an attack. On the 24th he was discharged the hospital, the wound being healed, with the exception of the part through which the ligature hung out. On the 5th March, the ligatnre came away. The report ends on the 13th April. He had had no fit, allhough he had returned to his work, and had drunk hard.

Thus, in this case there was no epileptic fit for upwards of two months from the performance of the operation. If there is none after the expiration of two years, the evidence will assume a satisfactory appearance; but Mr. Preston will excuse us from attaching much importance to it yet. In conclusion, we recommend these cases to our readers' notice. Let them discard all theoretical notions, and look to the facts. Mr. P.

might be utterly wrong in his reasoning, and yet the operation founded on that reasoning might be good. Its value is only to be tested by the cases in which it was performed. If our readers are satisfied with them, it is well —we are not so.

LXIII.

SURGICAL ANATOMY OF THE ARTERIES, WITH PLATES AND ILLUSTRATIONS. By NATHAN R. SMITH, M.D. Professor of Surgery in the University of Maryland, and one of the Surgeons of the Baltimore Infirmary. Baltimore, 1832.

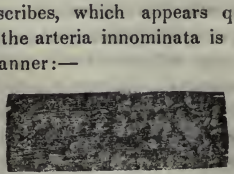
NOTHING affords us more sincere gratification, than any opportunity of directing the attention of medical men in this country to the labours of their brethren in America. Sprung, we may say, from our loins, speaking the same language, cherishng the same customs, actuated by the same love of political liberty, and displaying the same energy of individual purpose as ourselves, what Englishman but must look with pride upon their growing greatness—feel an interest in their welfare—and offer his best wishes for their success. It may be, that in the changes ominously impending over Europe, Britain, the modern nurse of freedom, science, and the arts, may fall a prey to despotism or to anarchy, and her name be blotted from the list of nations. Should that day arrive, and such a fate has overtaken far mightier empires, we shall live in our offspring still, and America will shew what Britain was.

Americans may be assured, that the feeling entertained towards them by the mass of the liberal and enlightened here is one of unmixed good will. We know how important it is, that kindly sentiments should take root and flourish in either land, and we look upon the attempts of fools or knaves to sow disunion with deep indignation and bitter contempt. This spirit pervades our scientific, as well as our political relations, and the paltry scribbler hardly exists, who would dare insult the public taste by such a tirade against American literature as once was penned in Scotland. The Review which contained that ill-advised criticism has since made ample and honourable amends to America, and few can read its notice of Mrs. Trollope's book, without applauding its manly and liberal tone.

The volume before us is calculated to be highly serviceable to students in surgery, old or young. The object of Mr. Smith, the able author, is to place before his countrymen a native work, which shall satisfy their wants in this department of science. We think he has succeeded, and, as children of a soil where patriotism is not altogether uprooted, we can fully appreciate Mr. Smith's motives, and not only appreciate, but approve.

The work is in quarto, contains 104 pages of close letter-press, and 18 lithographic plates, the arteries in which are coloured. The three concluding plates represent the mode of exposing and tying the carotid, subclavian, brachial, ulnar and radial, inguinal, popliteal and anterior tibial arteries. The fifteen preceding these are devoted to the anatomy of the arterial system. They are copies of the excellent plates of Cloquet, and well executed. In justice, however, to Mr. Knox, our valued friend, the able translator of Cloquet, we must confess that they are inferior to the engravings of the same vessels which he has published, and is selling at a very cheap rate. We think that if Mr. Smith had an opportunity of seeing these engravings, he would candidly admit the inferiority of his own.

Mr. Smith has adopted a method of shewing the absolute size of the arteries which he describes, which appears quite new. Thus, the arteria innominata is marked in this manner:—



The diagram is coloured red, and the numbers mark the branches, as well as the spots whence they arise.

In a journal of the nature of ours, it is in-

compatible with our plan to notice elementary works at length. We cannot, therefore, analyze or review Mr. Smith's. When we say that it comprises all the information of the day on the subject to which it is devoted, we only render a due tribute of praise to the able and industrious author. But there is one part to which we can allude, and to which we are, indeed, pleased at having the opportunity of alluding. Our readers will see, in another part of this Number, the experiments of Mr. Hawkins on hæmorrhage from arteries. Now it happens that Mr. Smith has been following up the experiments of Dr. Jones, and while Mr. Hawkins has been employed in confirming them, Mr. Smith has been equally profitably occupied in extending them. The process adopted by Nature to arrest bleeding from lacerated arteries was not thoroughly investigated by Dr. Jones. He himself confessed it. Since his time, as before it, a degree of discreditable mysticism has hung over the subject. Mr. Smith has, we think, gone far to dispel it. We cannot compress, with advantage, the experiments and conclusions of Mr. Smith. We, therefore, give them entire; and we do this the more readily, as they will necessarily be new to the majority of our English readers.

Cause of the Spontaneous Cessation of Hæmorrhage from Lacerated Arteries.

"It is a well known fact, that when a limb is torn from the body, or when organs involving very large arteries are rudely lacerated by obtuse instruments, hemorrhage will often spontaneously cease, even from vessels which always bleed fatally when smoothly cut. Cheselden's case, in which the arm, with the scapula, was torn from the body, will occur to the reader, and perhaps others of a similar character. Such a case fell under my own observation some years since, in the state of Vermont. A young man was caught by the arm in the drum wheel of a factory, and the limb, together with the scapula, was rent from the body. I saw the boy a week after the accident, and witnessed the dressing of the stump. I was informed that a very small quantity of blood had been lost, although no arteries had been secured. No secondary hemorrhage ever took place, and the patient recovered with surprising facility. The case was treated by the intelligent Professor of Surgery in Dartmouth college, Dr. Mussey, who has given an interesting account of the case in the New England Journal of Medicine. Many similar cases are on record.

Mr. Jones paid but little attention to the subject of lacerated arteries, and does not appear to have performed any experiments particularly for the purpose of comparing such injuries with others, in relation to hemorrhage. In one instance, however, he lacerated the carotid of a horse, and the animal bled to death. In another instance, he did the same, but arrested the bleeding by pressure on the artery. He reports that, in these cases, the internal coat was lacerated in many places, and that there were formed internal coagula, large enough to fill the artery, and that they were attached to it by lymph effused from the fractures in the internal coat. Although he seems to think the internal coagulum a more perfect barrier in this case, yet he does not appear to have ascertained its comparative influence in suppressing hemorrhage, indeed, he says that 'the natural means of suppressing hemorrhage, the peculiar state of the coagulum excepted, were the same in these cases of lacerated arteries, as in ordinary wounds of arteries, but I am not solicitous of pressing this opinion.'

The opinions which have been stated by various surgeons, relative to the spontaneous cessation of hemorrhage from lacerated arteries, are exceedingly vague and contradictory. From this we may infer that the subject has not been thoroughly investigated by experiment. M. Richerand* states that large arteries, when ruptured, become closed (*se reserrent*) partly in consequence of the chill which they suffer, producing

* Nosographie Chirurgicale, tome i. p. 170.

spasm, and partly by the pressure which the muscles, within which they retract, exercise upon them. M. Delpech* states, that when a limb has been torn from the body, the principal artery is sometimes broken within the parts of the stump which have resisted the violence, so as to hang out at the wound, and sometimes within the lacerated limb. In neither case, he says, is hæmorrhage apt to take place. He has so much confidence in the security of the vessels, that he advises not to seek for them in treating lacerated wounds unless they bleed. Mr. Charles Bell says, 'A torn artery does not bleed. I have heard it affirmed that, in this case, the blood was stopped by the rugged portions of the inner coat of the vessel, which is torn into shreds by the violent elongation of it. It has been said, if we disclose the radial artery of a dead body, and, putting a probe under it, tear it forcibly, the inner coat will present an appearance of valves to intercept the flow of blood. I believed in this statement, but, upon the experiment being repeated, I found that in a young and healthy artery the change could not be exhibited.' Professor Gibson† asserts that, the indisposition manifested by a lacerated part to bleed is owing to the injury sustained by the nerves, not only in the immediate vicinity of the wound, but to a greater extent around than the eye can discover. Hence, the arteries are paralyzed, and do not contract to propel the blood which coagulates in their cavities, or among the torn muscular fibres.

It is apparent, therefore, that the mode in which hemorrhage from lacerated arteries is arrested, is by no means an established principle in surgery. For the purpose of furnishing facts which may aid to render it such, the following experiments were instituted.

Exper. 1. Having exposed the femoral artery of a young slut, not fully grown, I passed a smooth iron hook under it, and lacerated the organ with a sudden pull. Blood immediately gushed from it in a rapid stream, and continued to flow copiously for about four minutes. At the end of that time, the blood on the table began to coagulate, and, simultaneously, the bleeding began to be less impetuous. It gradually diminished, and in ten minutes had ceased altogether. The animal was then shut up, but suffered to move about the room. No bleeding recurred. At the end of twenty-four hours she appeared quite well—moved the limb with freedom, and took food greedily. She was then killed with prussic acid. On examining the limb, it was found slightly swelled. Blood was injected, in small quantity, into the common tissue, and a coagulum had formed in the sheath, around the artery. The upper extremity of the artery was not retracted between the muscles, but was quite superficial. The external coagulum had not exercised much pressure upon it, for its extremity was larger than natural. I dissected the artery from its sheath, to the extent of three or four inches, and opened it longitudinally from above downward. Two inches from the wound I encountered a slender coagulum, which increased in diameter as I traced it downward, and completely stuffed the organ for one inch from its orifice. The external coat presented a lacerated margin, which, however, had become somewhat indistinct by the effusion of lymph. The internal coat was lacerated transversely in many places. Into many of these, slips of the internal coagulum were inserted. The blood which had issued from them appeared to have incorporated itself with that which filled the vessel, and thus to have, at first, attached the coagulum. From many other fissures a very apparent quantity of lymph had been effused —had blended itself with the coagulum, and fixed it so firmly in its place, that it was difficult to scrape it away. The artery was so firmly stuffed with the coagulum as to be considerably dilated. Not a drop of blood could possibly have escaped from it in this state.

Exper. 2. The carotid artery of a full grown dog, of large size, was exposed on

* Precis des Maladies Chirurgicales. Par J. Delpech, tome i, p. 188.

† Gibson's Surgery, vol. I, p. 92.

the left side of the neck, and lacerated as before. The artery broke deep in the chest, and bled for five minutes with great rapidity. The animal then gave signs of fainting, but these soon disappeared and the blood quickly ceased to flow. He was suffered to live for four hours, during which time there was no bleeding. He was then killed, and while dying he struggled very violently, but there was still no bleeding. The chest was then opened, and the artery traced from its origin. It proved to be a branch of the innominata. Its internal coats were broken at its very origin—the external was broken at the distance of an inch and a quarter from the innominata. The internal coats were withdrawn from within the external, which formed a loose pouch projecting from the innominata and stuffed with a firm coagulum. In this case there was no lymph effused, sufficient time not having elapsed. The external coagulum was voluminous and firm, occupying the interstices of the adjacent organs, and extending to the external wound. It had not, however, made pressure enough to interfere with respiration. The cervical portion of the broken artery was hanging from the wound, to the extent of two or three inches. This had also bled freely at the moment of the rupture, but had soon ceased to do so. Its internal coat was ruptured transversely at many places along the trunk of the artery. Near the extremity, it was filled with a coagulum which adhered to the transverse fissures in the internal coat. This must have been, of itself, an effectual barrier against the effusion of blood.

Exper. 3. I procured a horse, twelve years of age, of pretty good constitution, though very lean, and having cast him upon his side, laid bare the carotid. I then passed a smooth iron under the artery, and broke it, as I had done in the previous experiments. The blood gushed in a torrent from the wound, and in a few minutes the animal lost two or three gallons. In about ten minutes the blood upon the ground began to coagulate, and then a diminution in the rapidity of the current was manifest. The extremity towards the chest hung out at the wound to the extent of three inches. While the blood was flowing rapidly, the animal moaned once or twice, as if faint; but soon after he rose from the ground without difficulty, and stood till the blood had entirely ceased to flow, which was after about thirty minutes from the time the artery was ruptured. The projecting artery was then returned to its place, and the wound closed.

The animal was suffered to live for twenty-four hours, during which time he appeared nearly as vigorous as before the operation, and took food with avidity. He was then killed by a blow on the head, but, while dying, he struggled very violently. Blood gushed from small vessels in the wound, and I feared, at first, that the obstructions in the artery had given way. But, on examination, I discovered that not a drop of blood had issued from either extremity of the artery. The lower portion of the organ was found perfectly naked, to the extent of three inches from the rupture. Beyond this, its sheath was occupied with a coagulum, as was also the common tissue in the vicinity. No lateral pressure, however, had been exercised on the artery, to impede the passage of blood, as the organ was even increased in volume. The interior of the artery was found firmly plugged with a coagulum six inches long, and completely filling its cavity for nearly the whole extent of the coagulum. The internal coat, as in the preceding experiments, was ruptured transversely at a great many places, and little productions of the internal coagulum were inserted into them so firmly that they must have fixed the coagulum securely, as soon as coagulation had taken place. From many of the fractures in the internal coat, lymph, in quantity, had been effused, and become blended with the coagulum, which was thus so firmly attached to the surface of the organ that it required an effort to detach it. No blood could possibly have passed through it, and, as the coats of the artery every where retained their vitality, no secondary hæmorrhage could have subsequently occurred. The accompanying plate

accurately represents the preparation which I made of the parts by slitting open the artery longitudinally, and leaving the coagulum in its place. Fig. 1 marks the coats of the artery, near the broken extremity; 2, the coagulum; 3, a point at which the thyroid artery was broken off at its origin, and where the internal and middle coats were lacerated more extensively than at any other part. Here, too, was the greatest quantity of lymph, completely sealing up the organ.

Exper. 4. The carotid of a large dog was laid bare, raised with a hook from its sheath and divided. Its extremities then retreated into the sheath. The gush of blood was impetuous, but at the first moment little if any more so than when, in experiment 2, the artery was torn. There occurred no abatement in its force, however, till the animal fainted, which was after five minutes. The bleeding then almost entirely ceased for a moment, but presently returned, and in less than ten minutes the animal expired. The abdomen of this dog was then opened, a hook was passed under the aorta and the vessel was broken. The organ being dissected out was then examined. Its internal coat was ruptured, precisely as by similar means in the other experiments. In some places it was peeled up from the middle coat, so as to form pockets on the side of the artery; but this was the only instance in which I found any thing of the kind.

Exper. 5. I opened the abdomen of a large dog, and having exposed the aorta above its bifurcation, I attempted to break it in the manner mentioned above. The flow of blood was very rapid, and this, together with the irritation necessarily produced by the exposure of the abdominal organs, rapidly prostrated the powers of life, and the animal died in about five minutes. There was, however, an ineffectual effort at reaction. No other result could have been expected in this experiment, because the bleeding was so copious as to destroy life before coagulation could be effected. On examination I found that the aorta itself was not ruptured, and that the laceration had taken place in the external and internal iliacs. The blood, therefore, had flowed from several large trunks, a wound of either of which is ordinarily fatal. I was surprised to find, however, that each of the lacerated arteries had its orifice closed with a coagulum which had probably been formed *in articulo mortis*. The internal coat of each was lacerated as in the other experiments, and a portion of the external coat, in every instance, projected beyond the lacerated margin of the internal coats, to the extent of half an inch or more. The extremity of each artery appeared enlarged and bulbous, from the pressure of the coagulum within it, adhering to the rough cellular surface. I was persuaded, that, had not the flow of blood been so rapid as to destroy life before coagulation could be completed, this animal would not have perished immediately.

The above experiments will, I think, justify the following conclusions. 1st. That Dr. Jones errs in ascribing the cessation of hemorrhage from lacerated arteries mainly to the same causes which avail against bleeding from divided arteries. In the experiments detailed above, the retraction and contraction of the organ availed nothing. The same was true in regard to the external coagulum, which, according to Dr. Jones, is the principal agent. In each of the experiments, the extremities of the vessel were rather dilated than constricted or compressed. In one instance, (Exper. 3d.) the artery hung naked from the wound, and yet the bleeding ceased as promptly as under other circumstances.

2d. Equally untenable is the doctrine that the artery is paralysed by the shock inflicted upon its contractile tissue, and that the blood refuses to flow through a passive tube. In every experiment there was extensive injury inflicted upon the artery, and in one the organ was torn from the surrounding parts to a great extent; consequently its vital intercourse with them must have been for a time interrupted, and its own actions suspended. This paralysis of the artery should be most perfect instantly after the injury; but we find that the blood then flowed in a rapid stream which was

undiminished till it had had time to coagulate. It is true that in those cases on record in which limbs have been torn from the body, there has been, even at the moment of the injury, no considerable bleeding. But this has undoubtedly arisen from the shock given to the general system, and the suspension of the action of the heart till the blood had coagulated in the extremity of the artery.

3d. Although the pockets, or valves, mentioned by Mr. Bell, were, in one experiment, formed on the sides of the lacerated vessels by the rupture and partial detachment of the inner coat, yet, when the experiment was performed on the living animal, they were not found efficient in suppressing hemorrhage in a single instance.

4th. The efficient, and almost only cause of the cessation of hemorrhage from lacerated arteries, is the unequal laceration of the external and internal coats. Generally the internal coat is fractured transversely at numerous places, so as to present an indefinite number of small fissures, into which the blood of the artery is injected, and thence, perhaps, conveyed by interstitial absorption into the arterial tissues. Blood also probably flows from the ruptured tissue, and mingles with that in the cavity of the artery. As soon as coagulation begins to take place, blood concretes, probably first on the fissures produced in the internal coat, attaching itself to the rough surface which is there produced, and insinuating itself into the interstices in such a manner that the coagulum becomes so firmly fixed as to resist the impulse of the circulating blood. When an artery is smoothly cut, and the integrity of the inner coat is uninjured, the coagulum finds no point d'appui, or roughness upon which it can take hold. The surface is every where polished and lubricated for the very purpose of facilitating the passage of the blood, and therefore the internal coagulum, as it forms, either glides from the artery, when the organ is very large, or perhaps does not form at all, the particles finding no rallying point within the vessel. But when the internal membrane is extensively ruptured, blood must necessarily concrete upon the lacerated surface, precisely as it is uniformly observed to do in other wounds.

In some instances the complete separation of the intestinal coats will take place at some distance from that of the external, or cellular, which will then hang as a loose pouch from the end of the more rigid middle coat. Its surface being cellular and lacerated, the blood, rushing along it with force, is injected into this tissue, coagulates upon it, and attaches itself firmly to it. The external coagulum, which forms in the lacerated sheath, will then aid to sustain the internal coagulum, and suppress the hemorrhage. After the internal coagulum has been for some hours attached to the fissures produced in the internal coats, from each one of the ruptures there takes place the effusion of lymph. This still more firmly attaches the coagulum to the internal surface of the organ, and the more effectually stuffs its cavity; finally it takes the place of the coagulum of blood, and obliterates the cavity of the artery.

It may be asked, if nature resorts with so much uniformity, precision and effect, to the means of suppressing hemorrhage from lacerated arteries, how does it occur that fatal hemorrhage should so often result from the rupture of arteries which are broken without a corresponding rupture of surrounding parts and of the skin? These injuries are sometimes inflicted on large vessels in effecting the reduction of old dislocations. Many cases of the kind are on record. The probability is that arteries thus yield in these instances, sooner than the surrounding parts, because they are diseased and brittle. The external coat, having lost its extensibility, in consequence of the deposition of lymph in and around it, breaks abruptly without effecting the laceration of the internal coat at more than one place. Besides, we know that when there is no external wound, effused blood does not coagulate with facility, and, remaining fluid, opposes no obstacle to fatal hemorrhage. If Mr. Scudamore's explanation of the coag-

ulation of blood be correct, it refuses to coagulate promptly under these circumstances, because it cannot exhale its carbonic acid."

The experiments speak for themselves, the conclusions are inductive, and we can add nothing worthy of attention to either.

Mr. Smith has made what we really think is an improvement on the artery-forceps. All surgeons know that the "tenaculum of Assalini" is the best instrument, on the whole for taking hold of arteries in order to tie them. But, occasionally, they are less adapted for the purpose than a pair of forceps which will transfix the vessel. We then use a pair of forceps with a slide; but all who have used such, must acknowledge its clumsiness and inconveniences. Mr. Smith has made an alteration in the instrument. Instead of a slide, a spring projects from the inside of one of the blades, and passes through a hole in the other. On this spring there is a catch, which, when the blades are firmly compressed, takes hold of the blade, which it pierces, and keeps the instrument closed. "Its peculiar utility consists in the operator being able, when he has caught the organ with his forceps, by gently pressing the blades, to fix the instrument by merely increasing the pressure, instead of employing both hands, as is necessary in moving the slide, and which is very apt to disengage the forceps." The blades are excava ed just above the points, in order that they may be less apt to slip, and that any small substance getting between them may not defeat the seizure of a small a. tery.

LXI.

Mr. Schloss's Anatomical Plates.

The Anatomy of the Horse. By Dr. E. F. Gwilt, translated from the original German, by J. Wilmott, &c. In two Parts—Part I.

These are folio lithographic, uncoloured plates. They represent the osseous and muscular systems, the viscera, &c. of the horse. They are fairly executed, and we do not doubt that they are accurate. Many of our own profession are probably anxious to become acquainted with the anatomy of an animal, of essential service to themselves, and of high interest to the mass of the community. To such, and to the veterinary students, these plates must be acceptable, and to such we recommend them. Mr. Schloss, indeed, deserves every encouragement. Few booksellers, native or foreign, are as enterprising or as persevering as he is, none more attentive and obliging.

LXV.

EXCERPTA CHOLERALOGICA.

I. Dr. Haslewood and Mr. Mordey on Cholera.

So long as the pestilence continues amongst us, we must dedicate a portion of our Journal to the mournful subject. We had intended to notice the joint publication of the gentlemen above-mentioned in our last Number, but the work was mislaid among the pile of cholera monographs which crowded our library, during a temporary absence from home. Our present notice of the book—indeed of all books on the same subject, must be short, since novelties in theory or practice are sure to be antiquated, and even annihilated, in the course of a few weeks—so ephemeral is the existence of new lights in this fatal epidemic.

The authors in question had charge of the cholera hospital in Sunderland, and, consequently, had ample opportunities for observation. They have laudably enforced attention to the premonitory symptoms, by which success is almost secured. We quite agree with them, that those who relate cases where the violent forms of the disease manifested themselves, without previous disorder, have deceived themselves from want of accurate investigation. The following concise, but graphic portrait of the premonitory stage, is deserving of record.

PREMONITORY SYMPTOMS.

"In general it has been found that slight oppression of the breathing, with a soft and somewhat accelerated pulse, a degree of mental depression and inaction, anxiety of countenance, giddiness and some muscular debility are the earliest indications of the disease; the abdomen almost invariably feels distended, and is affected with slight transient pains; the urine is scanty and pale. These symptoms are usually followed by a moderate diarrhœa, the discharges being natural, consisting of the usual ingesta: the character of the discharges, however, (if the diarrhœa continues long enough uninterrupted by other violent symptoms,) gradually changes; and they have, in some instances, assumed precisely the choleric character before any vomiting, cramp, or collapse had unequivocally declared the nature of the disease. Two other symptoms remain to be mentioned, which are of very frequent occurrence, and which, in conjunction with those previously noticed, may be considered almost diagnostic. We allude to slight cramps affecting the fingers and toes, or prevailing still more generally, and coming on during the night; and to a numbness, and feeling of inability to move the limbs, approaching to paralysis; it is not a real inability, as a strong effort is sufficient to dispel the illusion. But the sensation recurs; and it is fortunate for the patient if it create sufficient alarm to induce him to seek, without delay, medical assistance.

After the duration of the premonitory symptoms for a period varying from a few hours to as many days, the disease manifests itself in a manner which, once witnessed, can never be forgotten."

The stage alluded to is that of collapse, of which we need not repeat the portrait. Of the treatment, too, we need not speak, since the subsequent experience has shewn the inefficiency of almost every remedy enumerated by our authors. The same experience, indeed, has proved that many of them are not merely inefficient, but that they are actually injurious. We mean the large and repeated doses of stimulants.

In respect to the mode of propagation, our authors are contagionists of the very first class—of the brightest water. For although many of our stanchest advocates for that doctrine have acknowledged that the laws of choleric contagion were obscure, while others of them have lowered the degree of contagion almost to minim, yet Messrs. Haslewood and Mordey see nothing but contagion, and that as plainly working as one of the steam engines in a Sunderland colliery!

"From the facts above stated, which in conformity with the *great preponderance of testimony from the Continent, and especially with that contained in the very interesting letters of Dr. Becker*, concerning the facts observed at Berlin, we can no longer doubt that the disease propagates itself *in strict accordance with the known laws of contagion.*

This view of the subject suggests at once the necessity of precautions being used to stop the progress of the malady."

Thus, it only wanted the cordons, the red crosses, the total seclusion and sequestration of the sick at Sunderland, to stop the epidemic! God help you, good easy gentlemen! Ye have been at least twelve months too late in publishing.

II. DR. KEIR (OF MOSCOW) ON CHOLERA.

THIS gentleman, who has grown gray in the practice of his profession, and who is also a contagionist, is very far from being so positive in his opinions as our brethren of Sunderland above-mentioned. The following extract is interesting.

"Although some of the medical men of this city are of opinion that cases of this epidemic had begun to appear as early as August, still no case of the disease, as far as I have been able to learn, came to the knowledge of the medical police, or was recognized as Cholera, till the evening of the 14th, (26th) September, when Demetry Michaeleff, a doorkeeper, residing in the quarter of the city called the Sretinka, near an open canal, which was under repair, and being covered over this last Autumn, 1830,

was attacked with it. The ground through which this canal runs is apparently for some depth a black loam, and though open for a considerable space in the neighbourhood of the doorkeeper's dwelling, has for many years past been a waste, on both sides of the canal, not unfrequenlty boggy, and a receptacle for the impuritics of the neighbourhood. The water running through this canal empties itself into the river of Moscow at the distance of about nearly three versts from the doorkeeper's dwelling, and the ground rises gradually by a considerable acclivity from this water-course on either side of the canal, in nearly an easterly and westerly direction, till it is intersected by the Sretinka street on the east, and the Tverskaia on the west, both situated at a considerable elevation above the level of the canal, and in the most elevated ground in Moscow.

I have been thus particular in describing these localities, because here one of the first, if not the first case of the disease was met with, and because it was in the hospital attached to this quarter, of which I was inspector, that I had my principal experience of the disease."

"After an interval of a few days the disease began to shew itself in different parts of the town, at a considerable distance from the doorkeeper's dwelling, and without there being any suspicion of communication between him and others affected by it. It now became more widely extended, and proceeding with rapid strides affected persons of all ages and constitutions, from five to above seventy, but more particularly the lower classes from fifteen to sixty."

The following is Dr. Keir's very moderate creed.

"At the same time that I admit the communication of the disease from one person to another, under particular circumstances, as in the wards of an hospital, or in a small ill ventilated room, and *a fortiori*, if other depressing causes are at the same time in action, and while I think it probable that it was imported to Moscow either from Nijney Novogorod, or Saratoff, still it must be granted, that the agency of an epidemic constitution of the atmosphere was sufficiently marked, while the communication of the disease from one person to another, excepting in situations as above-mentioned, was much less evident."

A few pages farther on, where K. comes to develope his ideas more fully, we find the following passage:—

"To have produced it, some very widely extended cause must have been in action; what that cause may have been, or how produced, I know not; but judging by its effects, and the character of the disease, it seems to be a poisonous agent or miasm, possessed of considerable specific gravity, by which it is disposed to lodge more particularly in the lower strata of the atmosphere, *perhaps proceeding from the bowels of the earth;* hence one reason of its tendency to affect more especially those who live on rivers and canals, in low situations, cellars, ground floors, &c."

From the source in question we cannot expect any interesting information on the subject of treatment. Dr. K. is an advocate for mercury in the epidemic cholera.

III. Mr. Morrah on Sulphate of Copper.

This gentleman, who we know to be a very intelligent practitioner, was induced to try the sulphate of copper, in a scruple dose to a cholera patient. It remained a quarter of an hour on the stomach, and then acted. After its operation was over, the skin became warmer, the pulse more distinct, and the spasms mitigated. Two grains of calomel and a table-spoonful of beef-tea were given every half hour. At night three drops of croton oil, which acted on the bowels, and appeared to improve the secretions. The patient slowly recovered. Some other successful cases are related by Morrah in the Medical Gazette.

IV. Dr. Tweedie on Cholera.

In the Medical Gazette Dr. Tweedie remarks that in his opinion the epidemic may

be stopped at any period anterior to collapse by efficient doses of opium. He properly observes that some secretions are more easily stopped than others—that the biliary secretion will be impeded by a dose of opium, which will have little or no effect on diarrhœa—"but that if a sufficient dose be given to stop every secretion, there has not, so far as he has witnessed, been any but the happiest result from it." Dr. T. observes that there is no necessity for giving aperients for a day or two after the diarrhœa is checked, as the bowels will generally act spontaneously, if let alone. In the stage of collapse he has seen no remedy that deserves especial praise. "The *saline* treatment has increased involuntary purging, and done harm; or the powders have been immediately vomited, and did no good." Excessive opiates have quieted the sufferings, but have done no good. Stimulants, in *excess*, have appeared injurious. In moderation, "they are not injurious." The few who have recovered from collapse, have done so under frequent doses of calomel, with or without small doses of opium, according to the degree of purging, &c. Cold water or other cold drink is allowed ad libitum, and its repeated rejection is no objection.

MR. STEWARD.

The above gentleman, who had charge of the Droitwich Lunatic Asylum, administered brisk doses of tartrite of antimony (three grains) till the stomach became quiet, which it usually did, and afterwards, the same quantity of the tartrite, with one grain of opium every hour. "In no case thus treated from the commencement, did the sickness rest beyond four doses." Very often both the vomiting and purging ceased; but where the latter continued, rhubarb and magnesia with laudanum were given, followed by calomel and capsicum.

In the Lancashire Lunatic Asylum, the medical officers have combined the saline treatment of Dr. Stevens with the cold water of Dr. Shute, and the mercurial treatment of the India practitioners, with success, according to their statements. Mr. Langford, of one of the Manchester Cholera Hospitals, has practised the antimonial treatment, on the principle of inducing the *tolerance* of the medicine.

DR. AYRE.

This intelligent physician boasts, and we hope with reason, of the "*eminently successful* practice" which he has pursued in cholera—all the cases being treated on the same plan, and all by one remedy. Our readers are aware that Dr. Ayre pursued the mercurial practice, and he now offers to prove his success under the inspection of any competent commission.

MR. HICKMAN.

This gentleman, who had served several years, and treated cholera on a large scale there, has addressed the Central Board of Health, stating his conviction that "all our hardly-earned pathological, physiological, anatomical, and therapeutic experience, has been laid aside, in order to seek for new modi medendi, which have been blazoned forth to the public only to suffer defeat—nay, more, have by their failure increased the dread, and aggravated unnecessarily the feelings of the public respecting this vampire in the shape of disease." Mr. H. then gives a brief outline of his own mode of treatment, which we transcribe from the Lancet.

"1st. When in the form of bilious diarrhœa:—In this stage, avoiding as much as possible all known *lædentia*, and employing, in an equal degree, all known *juvantia*. I have trusted entirely to the conf. opii in doses gr. xxxvj. in aquæ pimentæ ʒj. to adults, repeated at well-timed intervals, watching the patient attentively. The success attendant on this treatment has been most signal.

2d. In that of rice-water evacuations:—In conjunction with the above, I have employed doses of calomel and camphor, gr. iij. of each in the form of a powder.

3d. In the stage of collapse:—Here I have relied (cæteris paribus) entirely on full doses (ʒj.) of calomel, with moderate quantities (gr. j. or gr. ½) of opium, *mercurial*

inunction and calomel and camphor gr. iij. of each every half hour, or every second, or every third hour, combining with each powder as reaction became established one grain of pulvis calumbæ, which I consider highly valuable."

Mr. Hickman protests against the employment of a farrago of medicines, poured into a stomach, already highly irritable, with deadly and empirical velocity.

V. MESSRS. TWEEDIE AND GASELEE ON CHOLERA.

THESE gentlemen have written a joint pamphlet on the epidemic, which is deserving of attention. Mr. Tweedie having been resident medical officer in the cholera hospital, in Abchurch-lane, has had ample opportunities of studying the disease, and observing the effects—therefore his remarks are valuable. The authors are ultra-contagionists—their belief is as deep as the ocean, and, if they had been Romans or Neapolitans, they would have believed in the liquefaction of the blood of Januarius much more firmly than in their own existence. But we shall pass over this part of the subject, and see how this deep and solemn faith in contagion tallies with the "*precautions*" which our authors recommend against catching the disease. Respecting "protecting belts, anticholera medicines, spells, charms, and bags to dispel infection," our authors seem doubtful whether they are useful or injurious; but—

"The only precautionary measures which we would recommend, are temperance, cleanliness, and avoiding, as much as is consistent with duty, unnecessary exposure to those who are diseased."

This is very moderate for ultra-contagionists, and the same precautions apply to almost every disease into which pyrexia or profluvium enters.

The authors pass on to less debateable subjects.

"The disease, as it has occurred to us in this metropolis, is almost invariably preceded by an irritable condition of the bowels or actual diarrhœa, varying in its intensity and duration from one hour, to two, three or more days; occasionally even a longer period; prior to which anomalous feelings may have been experienced in the abdomen, especially a griping pain in the epigastric and umbilical regions; and a state of constipation may even have pre-existed, but frequently mere diarrhœa is present, and the ease with which the bowels are evacuated, and the freedom from all pain, deludes the victim into a belief that his ailments do not require attention, and that 'all will soon be right.' Occasionally the complaints first attract notice, from nausea and sickness coming on, and in other cases the patient experiences, at first, an acute attack of pain, either in the stomach or colon, or is seized (though more rarely) with cramps in the extremities. The diarrhœa, in some instances, is soon followed by vomiting; in others, they both commence together. It is in these early stages that the complaint is certainly remediable under judicious treatment, variously adapted to the form of attack, the length of time which it may have existed, the rapidity of the progress which it has already made, and the condition and powers of the patient."

The authors divide the treatment of the premonitory symptoms into three parts—that necessary for the tormina—the feculent diarrhœa—and the serous diarrhœa. For the first, a proper evacuation of the bowels, followed by carminatives and anodynes, is sufficient. For the feculent diarrhœa, the same remedies will generally apply as if the epidemic did not exist, except that greater attention is necessary to check the disease in due time. An emetic is often useful in this stage, after which, opiates and astringents will usually be proper; though the retention of vitiated secretions will often require warm, but efficient purgatives, combined with, or quickly followed by, light anodynes. Many cases, however, will occur, where the intestinal discharges must be stopped as quickly as possible, without regard to bad secretions, since the danger of collapse, by draining off the fluid

and saline parts of the blood, is greater than any other danger. Opium, of course, is the sheet anchor in such cases. The authors of the volume before us give two grains to an adult, in the form of pill, for the first dose, and half a grain after every motion, till the discharges are restrained. Sometimes they combined a few grains of calomel with the first dose, but are not certain whether it added to the benefits of the opium alone. The purging being stopped, there is no need of soon opening the bowels again. A couple of days may be allowed.

When the serous diarrhœa has become associated with cramps and sickness, the most decisive treatment is necessary, in order to prevent collapse.

"To *stop the discharges* and *stimulate the flagging powers*, are now the immediate indications, and any means which risk the continuance of the purging are less preferable in proportion to the degree of such hazard. It has been said that the object is to *stop the discharges*, and nothing will effect this more, nay, so speedily, as *opium* in *full* and *efficient* doses.

The patient should be placed in bed between warm blankets and two grains of opium given, and followed immediately by a draught of the following nature:—

Sp. myrist. vel. sp. junip. comp.	℥x.
Sp. ammon. aromat	℥j.
Vin. opii	ℿxx.
Misce.	

If these are retained on the stomach, it will be proper to wait, lest, by giving more, vomiting should be induced; and it is better to trust, for one hour at least, to the above medicines (if they are not rejected) before any thing else is given. If they are returned from the stomach, it will be necessary to repeat them, and, if the purging continues, to administer the following enema:—

Decoct. amyli . .	ℨj.
Tr. opii	ℿxl.
Vel. vini opii. . .	℥ss. ft. enema,

which may be repeated likewise with half the quantity of the tr. or vin. opii, if expelled within a reasonable time. It occasionally happens that not more than one, sometimes not a single, evacuation follows after this, and the patient rallies from his depression; notwithstanding which, cramps will come on. These need not excite alarm, they will readily yield to hot fomentations, particularly if the system is influenced by opium. The case is henceforth easily managed, but cordials with small opiates should be continued."

It is hardly necessary to remark, that the "saline treatment" of Dr. Stevens is regarded by our authors as unnecessary in the early stage, and inefficient in the collapse of cholera. Under the head of collapse, our authors make many sensible and modest observations. They deplore the conflicting opinions and practices which have been published and urged, to the manifest injury of the medical profession. They justly observe, that too much is usually attempted in the stage of collapse. "Remedy has followed remedy, and dose has accumulated upon dose, in a manner more creditable to a sense of anxiety for the sick, than was consistent with sound professional judgment."

"In natural recovery from collapse, the warmth gradually returns to the features and extremities, the vomiting ceases, the purging diminishes, the cramps subside, the circulation is restored, the secretions of health return, and the individual gets well, sometimes immediately, and at others with the interruption of consecutive symptoms.

The design of medicine should obviously be to bring about these very desirable results. The indications of cure are at once simple and manifest, and not the less certain because human art is in a majority of instances totally incompetent to accomplish them. The indications of cure are simple, so ought to be the measures adopted to fulfil them; the only difficulty is to know what are the best means by which this is to be done.

It is very far from our inclination to attempt to solve this knotty problem. We do not venture to affirm, that such and such only is the '*sine quâ non*' of treatment; our sole object and desire being freely and

candidly to state the result of personal practice; and we leave it to others to determine whether our views be deserving of notice or not.

According to these views, in collapse the patient should be dressed in a flannel shirt, and placed in a warm bed between blankets, with bottles of hot water to the feet and thighs; the head should be laid rather low, and a sufficient quantity of clothing thrown over the body to render him comfortably warm. In this respect his feelings are not to be altogether disregarded; if he complain of much heat, and the general temperature of the room be pretty warm—say 70° F. a single blanket and coverlid will suffice.

Sinapisms are valuable in collapse. A good large mustard poultice to cover the belly and chest, kept on till it has excited a redness, and can no longer be borne, and then removed to the back in like manner, is of great utility in bringing back pulse to the wrist, and in promoting the warmth of the surface. It also aids in allaying irritability of stomach, when that symptom exists. Mustard poultices require this caution in their application:—if kept on too long they distress the patient, and completely wear him out, so that more harm than good may be done by them; it is always better to remove them when they have excited moderate erythema. Under this simple precaution they may be used with benefit in all cases of collapse. The authors have seldom found it necessary to keep them on longer than half an hour at a time, or thereabouts. When, however the collapse is advanced, and the skin insensible, they must of course be retained until they produce some effect.

If the subsequent erythema be of a bright colour, recovery is probable; if it be dingy and livid or leaden, death is almost certain.

We have never been satisfied of the utility of frictions: the limbs are mechanically warmed by this means, but they soon cool again; and we have seen no case in which restoration of pulse could fairly be attributed to it.*

Frictions unquestionably afford relief to cramps, and it is the common practice to rub the extremities when under this state; but by far the most effectual and grateful relief from cramp is obtained by hot fomentations, with a strong solution of salt in water, and by wrapping up the limbs in flannels soaked in that fluid. Tight ligatures also afford ease in a very marked manner, and may be used when salt and water is not convenient; but undoubtedly the best means by far is that of fomentations. Patients feel greater benefit and comfort from this than from any other part of the whole treatment.

From the time that a faltering of the pulse and other symptoms indicate the close approach of collapse the remedies recommended in the earlier stages are to be laid aside. Opium, which before was our sheet-anchor, will still stay the purging and quiet the cramps; but in large doses, it will now only do so by oppressing the nervous system, and crushing every effort at re-action. In the collapse, large doses of opium are consequently injudicious. Our main reliance now, in the way of medicine, is to be placed in *minute* and stimulant does of opium, combined with calomel. From two to five or six grains of the latter, and from one-sixth to one half-grain of the former, made into a pill, may be given every one, two, or three hours. If cramps be absent, and there be not much purging, the calomel may be given by itself without the opium; but when purging is profuse, and when cramps are severe —far from being injurious—opium in such doses has, in our observation, produced the happiest possible results. The object *now* is to moderate the purging, not too suddenly stop it: if therefore, notwithstanding this administration of calomel and opium, the purging goes on uncontrolled, it will be advisable to have recourse to additional means.

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* "The pulse may often be brought back to the wrist, by merely placing the hands in a bowl of pretty warm water for a few minutes. In one case where the pulse was so brought back, the good effect was permanent."

We have found, under such circumstances, nothing so good as small enemata of brandy and water cold, with the addition of a few drops (twenty or thirty) of laudanum or vinum opii; this may be repeated every two hours, and the relief by which it has been followed has been the indication for its general adoption."

We have exceeded our intended limits in the notice of this little work, but really there is more practical information and good sense in it, than in many octavos of ten times the size.

VI. LETTER FROM A FRIEND, DATED BOLTON, 10TH OCT. 1832, TO A GENTLEMAN IN DUMFRIES.

"THAT a current of poisonous impregnation, of great intensity, has passed through your place, must evidently be allowed; but that its effects have been aggravated and extended, through the enervating influence of panic and personal fear, I, moreover, am led to conjecture. I have witnessed a good deal of cholera in three of the chief towns in Lancashire, and my experience leads me to the remark, that after a predisposition from real poverty, and intemperance in drinking, a dread of the disease is the most certain provocative of an attack; indeed in the cases of weak and nervous females, I should consider fear alone to be the most exciting cause during the prevalence more or less of the epidemic. I may also remark, that the dread of the pestilence in the South of Scotland is a prevailing epidemic of itself. In Galloway the mere rumour of a case, 40 miles distant, is sufficient to bring the segregated Members of a Board of Health to a speedy convocation, and spread alarm to the most sequestered cottage. To give an instance of this panic in educated people, a most respectable lady, living in a large mansion in Wigtownshire, lately caused all her family and house-servants to get into her carriage, on the instant her butler was seized with symptoms of cholera, and kept them sitting and waiting in the vehicles on a damp evening for two hours on the lawn, till post-horses could be brought from the town. On the contrary, I know a clergyman in Manchester, who continually went about visiting the cholera patients, and sat on their beds conversing with them in their dying moments, who never was in the least affected; while his servant, who sat in his gig, and waited on him, but who had much dread of the disease, was seized and narrowly escaped with his life. In this town, where we have not had above 40 cases, yet the people are decidedly sceptical, not that it does not exist, but against all measures taken for its prevention and cure; and the only patient that was attempted to be taken to the hospital, was forcibly stopt, taken from the porters to the neighbouring beer-shop, where they thrust warm beer, and toasted bread down his throat, and strange to say, he eventually recovered, without the future aid of the Faculty. I hope, therefore, as you seem inclined to do, you will cheer up your fellow-citizens, to put off the mortal evil of their fears, and put on the armour of confidence. It is this that shields the medical man, who is believed by the vulgar to possess a charm against it and fever, and about which I was asked seriously the other day by an otherwise intelligent patient."

VII. CHOLERA-PHOBIA IN IRELAND.

LET any one peruse the following extract from a paper of Dr. Howison, published in the Lancet of Nov. 10th, and say whether the terror of cholera is not one of the strongest predisponents to the disease?

"The effects of imagination on fear, during the epidemic cholera which prevailed in Ireland, amongst almost the greater number of individuals, were striking and surprising, and even the greatest minds gave themselves up to that impulse. On the morning when the death of a respectable banker became known in one of the large towns, almost every wealthy individual of the place imagined his turn was to come next, and for days gave themselves up to gloom and despair—many actually believing that they were labouring under the disease, and a considerable time elapsed before that

disagreeable feeling eventually passed away. A wealthy individual, who felt within him an idea that he would fall a victim to the disease, actually left six different towns as the disease reached one, and at length fell a victim to it in the seventh. Whilst I remained at Belfast, almost every night I felt a disagreeable sensation, which no effort could completely overcome. And during a whole night, whilst attacked with diarrhœa, from what cause I cannot distinctly say, whether a slight effect of the prevailing epidemic, or from living too well, or from cold, I never shut an eye. The melancholy state of the streets, deserted by the inhabitants, most of the few who remained being in mourning, hearses passing continually by day, and the noise of the wheels of cholera carts rattling at a gallop over the causeway, under the windows in the night time, carrying individuals to the hospital,—appalled the strongest minds. Almost in every large company during dinner parties, individuals arose from the table, imagining they were ill; and it was evident that the gaiety kept up by others was forced, and far from the heart. Such was the case in Ireland, the first country in the world for those merry and hospitable bursts of laughter which shake the sides. I feel no hesitation in believing and stating, that the best antidotes against cholera are nourishing, good, moderate living, and having not the slightest fear of the disease. Individuals who possess these two good preventatives will escape it; but is it possible to instil the latter into those who at an after period may become its victims? I fear not. Is not the very circumstance of an individual feeling a presentiment haunting him day and night in all situations, a part of the disease.

So great was the terror of cholera at Londonderry, where it never had as yet reached whilst I was there, that dining with a family the same day on the morning of which the guard of the Sligo mail-coach had died of it, every other individual refused to go back for him, until a man was got to do so upon receiving double wages. If my memory do not fail me, it was stated at table, that the mother and sister of the unfortunate man, the only individuals who resided with him, were also taken ill and had died since—a report which afterwards proved false, they only having been removed to a place of quarantine, and the house shut up. The master of the house, a very sensible literary man, actually wrote his will, brought it down stairs, before he sat down to dinner, and gave it to his wife in my presence, and before his family, informing us that his feelings were, that as soon as the disease had made progress in the town he would be attacked. At that period and since, no other case followed, and I have no reason to doubt but that my friend has as yet escaped it."

VIII. Dr. Thompson, of Belfast.

This gentleman, who had 20 years experience, as a naval surgeon in various parts of the world, and also much in the late epidemic visitation of cholera in Belfast, has published a pamphlet, the second edition of which has just reached us. Into the controversy between him and Dr. M'Cormack we must decline entering. Their pamphlets are before the public in Belfast, where alone the conflicting statements can be fairly decided.* It appears, however, that Dr. Thompson's treatment was eminently successful, and that too, in the stages of collapse. We therefore readily give a a summary of his plan in his own words.

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* We are extremely sorry to observe the language that has been used in this controversy—more especially that employed by Dr. M'Cormack. Into the authenticity of the facts, it is not for us to go; but Dr. M'Cormack's language and temper in the controversy, are exceedingly injurious to his cause. The general public in medical controversies, will judge more by language than facts—and if as Dr. M'Cormack insinuates, Dr. Thompson has employed a lawyer to revise his letters, it would have been beneficial to the character of the profession if he had done the same.—*Ed.*

"My first object is, to have my patient placed with his head very low, as in cases of syncope, from loss of blood, or from any other cause. I then determine to put a stop to the watery discharge *ab ano*. This, in some cases, will be found very difficult, but by perseverance it can, in general, be effected. The following I have found to be the quickest and most efficient remedy. I order a pint of arrow-root, a glass and-a-half of whiskey, eighty or one hundred drops of laudanum—all to be mixed together, and made sufficiently thin for an enema, and to be thrown up the intestines as warm as the patient can bare it. By this means I introduce nourishment, heat, medicine to allay inordinate action, and a very diffusive stimulus—being, at the same time, a powerful diuretic—all coming in contact with an extensive absorbent surface, viz., the mucous membrane of the intestines. Should this be retained, and when collapse has decidedly taken place, I repeat it in an hour, with or without the laudanum and whiskey, or, with a smaller quantity of each, according to the symptoms. Should it be immediately dejected, as often happens, I repeat it as soon as another can be got ready; and if the second be returned immediately, I forthwith proceed to give a third, a fourth, a fith, or any number, until one of them be retained, always taking particular care to keep the patient's head very low. In one of my cases, the patient appeared to be just expiring at the moment an enema was administered, but this was retained, and likewise the one previously given—so that by this time she had three glasses of whiskey, 160 drops of laudanum, and a quart of arrow-root. In this condition I left her, about six in the evening, convinced that I had done my duty, if she died the next moment; and, indeed, to judge from appearances, there could not be the slightest shadow of hope entertained of her recovery. Under these circumstances, and at the suggestion of her brother, as they lived some distance out of town, I made out an admission ticket, for her body to be received into the dead-house immediately she expired, which was momently looked for. To my great surprise and satisfaction, however, at 8 o'clock on the following morning, unequivocal signs of reaction had taken place. The pulse could be found slightly fluttering at the wrist; there was a little warmth in the extremities, and the secretion of urine had been restored in a slight degree; the vomiting of every thing taken into the stomach continued for five days after this reaction. Three days after reaction, bile was thrown off, and the pulse became full and natural—but even then, if she raised her head, she became exceedingly faint. About this period, when the bile began to be secreted, I indulged the patient with a pillow, but I did not permit her to raise her head higher than the pillow for some time afterwards.

Reaction, in this case can only be attributed to the last two enemas that were retained. I need scarcely state, that upon the least sign of resuscitation, the enemas were resumed, and continued for five days, which is the usual period in such cases, when the stomach begins to retain nourishment. They were generally administered every three hours, gradually diminishing the quantity of whiskey and laudanum, and sometimes leaving them out entirely, being guided, in this respect, by the pulse and other symptoms. Occasionally, a laxative enema has been substituted. I endeavoured to regulate the passage of the bile through its proper channel, by giving her small doses of calomel, but the effect was uniformly depressing. As to giving calomel in large doses, in collapsed cases, or in those approaching to that stage of the disease, or, indeed, in any dose under such circumstances, is, in my opinion, a mistaken practice, for at the time when it is my object to raise the pulse, it has the effect of depressing it still more. We are told by the advocates for the use of that medicine, that it is given to restore the secretion of bile, and all the other natural secretions. In my judgment, calomel requires a circulation to act upon; and to be judiciously administered, it should be given before there has been too great an expenditure of serum, or after that and the circulation have been

restored by other means. Two great objects I keep always in view, viz., that there is a deficiency of serum and animal heat, and that the blood being drained of its serum by watery evacuations, it becomes so inspissated, that it can no longer circulate, unless some means be devised to make up for this loss, or at least to put a stop to the further separation of this water, so necessary to the circulating mass; or, in other words, that the loss of a certain portion of the serum of the blood will occasion the same faintness that the loss of blood itself will produce. I believe my plan is the best calculated to answer the end in view. The stomach is always in too irritable a state to be the medium of introducing fluids, or any other thing, into the circulation; every thing is almost instantly rejected; while the intestines, much less irritable, afford, at the same time, a much more extensive surface for absorption—and by keeping the head low, the enemas will be retained. The exhalents of the intestines, by change of position, and pressure from the fluids introduced, will cease to pour out any more serum, and the blood now in the heart and large vessels, assisted by gravity (the head being low) and thinned by the fluids, will gradually find its way into the arteries of the brain, and produce that distention of them which, by its pressure and stimulus, is necessary to call the nervous system into action.

Soon after this the tip of the tongue, which before was cold as ice, gradually becomes warm. It is the nearest point to the source of the circulation and origin of the nerves, and will always be the first to receive heat.

With caution and perseverance in the injections, all will do well. The upper extremities will gradually regain the circulation and warmth; then the lower extremities; and after this, if there never had been a grain of calomel in the universe, it will soon be found that there will be a perfect secretion of bile, and a restoration of all the natural secretions. Only restore the circulation in full force, and it will in due time restore all the natural secretions."

IX. "NEW PROOFS OF THE VERACITY OF CONTAGIONISTS."

THIS is the title of a short paper in our contemporary, the "MEDICAL and SURGICAL JOURNAL," for Nov. the 10th, 1832. It exhibits, in a striking light, the shifts to which a drowning party will have recourse, in articulo mortis! The language is somewhat personal.

(*Extract from the French Lancet.*)

"A medical Journal, in giving in its last number an account of a Memoir by Drs. Trompeo and Rolandis of Turin, on the cholera morbus of Paris, states, 'that one of the most remarkable circumstances cited by the authors in favour of contagion is, that of a certain number of mattress-makers, who, having been occupied in carding the wool of beds previously used by cholera patients, were, almost all, attacked with the disease,—but (says the journalist) I do not know where those gentlemen obtained their information, or whether it be true.'

They obtained it from the mouth of the grand master of contagion, M. Pariset, who positively affirms that it occurred at the Salpétrière. As to this statement, we can assert that it is not true,—that, far from almost all the mattress-makers in question having been attacked, very few of them had the disease; and we do not see why they should have been more exempt from the epidemic influence than the other inhabitants of that vast establishment, who suffered greatly from cholera, not excepting the insane.

In a similar manner did Messrs. Pariset and Audouard assert, that the mattress-makers of Barcelona were almost all attacked with the yellow fever, as the consequence of their particular occupation, during the epidemic of 1821 in that city: but M. Chervin subsequently placed before the Academy of Medicine authentic declarations from the mattress-makers, proving that the statement of Messrs. Pariset and Audouard was utterly fabulous.

It is thus, nevertheless, that *Messieurs les Contagionistes* write the history of events,

and enlighten governments which place confidence in them.

Why is it to be wondered at that our neighbours adopt the most rigorous and absurd measures against the pretended contagion of cholera, when we see certain paid agents of government become the apostles of that chimera, and, in their zeal for the cause which they defend, falsify the facts which pass before our eyes."

"The two persons referred to in the foregoing extract, Drs. Pariset and Audouard, have, from the nature of their employments, long proved the very great utility of quarantine regulations to themselves. How truly was it said last year by Magendie to Lord Auckland,—'If you wish, my Lord, to get rid of contagion, *pay no quarantine people.*' He told the same to the Prime Minister of France. What thousands of lives might have been saved had this advice been taken! In this country, the mischief arising from the fatuous decision, against evidence, of the committee of imbeciles first consulted, might have been stayed: events would have reached the public eye in a purer shape, instead of being artfully dressed up by a *grand-maitre*, with his tried lieutenant and a troop of mercenaries. Communities, not being foully swindled out of their common sense, would have been able to appreciate, very soon, the difference between a cause and a mere coincidence; the gates of the splendid public hospitals, which are such an honour to the country, would not have been closed against the sick, who as we well know, have perished, in many instances, for want of due accommodation and attendance. We are well aware that the most consummate art has been practised by a knot of fattening contagionists, to propagate through every possible channel their doctrines from this to other countries. In our last number, we gave proofs that the medical men in the United States seemed to be judging for themselves, however, unbiassed by management practised here. But far otherwise it seems to be, we are sorry to say, with the people at large there; for it would appear that, with them, the falsehoods propagated by some of the *employés* in this country, as to cholera being transportable by such things as the sails and ropes of a ship, &c. &c. have gained credence, and, as may be seen in an extract of a letter from Watertown, given in the Paris Medical Gazette of the 9th inst., the sick are, consequently, treated like wild beasts—'*On traite une pauvre malade comme une bête farouche!!*' A dungeon and bread and water for the remainder of their lives would be but inadequate punishment for the mischief inflicted on society every where by persons who have, from interested motives, been active in propagating the most fiendish doctrines."

X. CHARCOAL IN CHOLERA.

IT appears that an old man of singular aspect, oddly attired, and wearing a long white beard, drove about the streets of Montreal, from morning till night, administering charcoal powder to cholera patients, and curing all to whom he gave it. Mr. Parkin, a young East India surgeon, has proposed, some months, the same remedy in this country; but we believe that he had but a few opportunities of putting it to the test, and those not fair ones. Dr. Garrandan avers that he was successful with this remedy given by enema, in a dozen of cases continuously, in the department of Calais.

XI. DR. WILLIAMS, OF IPSWICH.

IN our last number Dr. Williams' suppository (opium and soap) was mentioned without remark. We confess that we have little confidence in the remedy proposed, nor can we persuade ourselves, after what we have seen of real cholera, that any suppository can be "easily and comfortably received and *retained* in the bowels." *p.* 9. The Dr. declaims, with suitable vehemence, against the "awful fatality" which "may be attributed to the use of calomel, opium, &c." in cholera. We should hardly have expected that a learned "*fellow*" of the College of Physicians would have come forward,

at this time of day, with a specific suppository for cholera, a disease which, like all others, requires different remedies in its different stages. At page 16 of his pamphlet, we find the learned Doctor animadverting upon some papers or letters published by Dr. Baird, of Ipswich; but into this controversy we mean not to enter. Not having a *nostrum* of our own to propose for cholera, we adhere to the good old rule, "non *nostrum* inter vos," &c. But in the same page, we observe a passage which is interesting beyond the confines of Ipswich.

"Member of the Royal College of Physicians in London and Graduate of the University of Edinburgh. All membership of the College of Physicians, with the *honors* and *duties* attached to it, centre in the Fellows *alone*. Dr. Baird's name is to be found amongst the *Licentiates* only.* The real or legal qualifications of a Licentiate, and those of a Graduate of the University of Edinburgh to *practice* as a Physician in England, and *to what extent*, it is not my intention now to enter upon or discuss."

The passage and note are printed and Italicised precisely as they appear in Dr. Williams' pamphlet, and they exhibit an exquisite specimen of the feelings which some "Fellows" entertain towards those outcasts of the profession—the licentiates of the London college and the graduates of Edinburgh!! Admitting that a Blane, a Parry, a Gregory, an Abercrombie, were not worthy to lick the dust from this Ipswich "fellow's" shoes, what must the Babbingtons, M'Gregors, Prouts, Rogets, Hollands, &c. think of the dung-hill from which they have sprung, and the brilliant *via lactea* into which they have been transplanted!

We may venture to assert, that not a single "Fellow" of the College in London would venture to publish such a libel on his fellow-practitioner here, even were he so inclined—and we are happy to say, that very few indeed of them are so inclined, if we can judge of their character! It is in provincial towns only, that such narrow-minded and illiberal sentiments could be engendered or emitted.

* "Even in the appendix to the report of the committee of the House of Commons respecting the late Dr. Jenner's petition, the licentiates of the College of Physicians are designated licentiates only—*not members*—in proof of which, a brief extract from such appendix is here subjoined."—*p.* 17.

LXVI.

The Poisonous, or Toad-Fish of Van Dieman's Land.

(Communicated by James Scott, Esq. R.N. Colonial Surg. at Hobart Town.)

The fish of which I send you a delineation, is found in the bays and on the shores of Van Dieman's Land, and is supposed to be a species of the toad-fish.

The melancholy and dreadful effect produced by eating it was lately instanced, in the neighbourhood of Hobart Town, on the lady of one of the most respectable merchants and two children, who died in the course of three hours, without having been able to give any notice of their danger; and several servants (who had also partaken of the fish for dinner) were only saved by the timely discovery of the death of their mistress, and their fellow-servant's children. The poison is of a powerful sedative nature, producing stupor, loss of speech, deglutition vision, and the power of the voluntary muscles, and, ultimately, an entire deprivation of nervous power, and death.

At the inquest over the above bodies, the effect of the poison was satisfactorily proved, by giving part of the fish left by the unfortunate individuals to two cats, which soon became affected. When both were in a dying state, one had twenty-five drops of the arsenical solution introduced, with a silver tube, into the stomach, and rapidly recovered, while the other, which was allowed to take its chance, quickly died. The bodies, at death, were flaccid and blanched, with no fetor, but rather a smell

like that of new hay, particularly about the mouth; but in about twelve hours, they became livid, swollen with bloody serum issuing from all the external parts, intolerably fetid, and rapidly running into decomposition.

The general size of the fish is about five inches in length; the girth is great in proportion to the length; the back is of the colour and spotted like tortoiseshell; the belly is of a white kidskin feel and appearance; the animal has one ventral fin posterior to the anus, one caudal and two pectoral fins: the gills are anterior to the pectoral fins, and are about three-eighths of an inch in length, and of a semilunar form; the eyes are rather large and prominent, like those of the toad; the nares are anterior to the eyes.

Hobart Town, Van Dieman's Land, 27th Dec. 1831.

N.B.—The specimen of the fish preserved in spirits, accompanying this account, has been presented to Sir W. Burnett, Knt. in trust for the museum at Haslar, by Dr. Sinclair, R.N.

ST. GEORGE'S HOSPITAL.

I. EXCISION OF THE HEAD OF THE HUMERUS, AND AMPUTATION OF THE SHOULDER-JOINT.

WITHIN the last three years, two operations for the removal of the head of the os brachii, and one for amputation of the upper extremity at the shoulder-joint, have been performed at this hospital. All were for disease of the articulation. We will give the particulars of the cases, in order that some sort of comparative estimate may be formed of the value of the operation of excision and amputation. We are aware that such an estimate is by no means a complete one. It would require many cases, varieties of circumstances, and careful comparison, to warrant a decision.

In 1768, Mr. White, of Manchester, removed the head of the humerus through a vertical incision in the deltoid muscle. The case was one of that acute necrosis which surgeons occasionally witness, and which is not unfrequently fatal.—Soon after the publication of Mr. White's case, a similar operation was performed by Mr. Bent, of Newcastle, and Mr. Orred, of Chester. In France, the elder Moreau performed the operation successfully in 1786; and the army surgeons, particularly Barons Percy and Larrey, frequently resorted to it, on account of recent wounds. Such is the brief history of the operation offered by Mr. Syme, in his Treatise on the Excision of Diseased Joints.

There can be no question, that it is owing chiefly to Mr. Syme himself that the operation has recently attracted much attention. The cases that he has published have been so numerous, some of them apparently so satisfactory, that it became impossible for unprejudiced men to disregard them. Mr. Syme has related two cases of incision of the head of the humerus for disease of the articulation. In the first case, the extremity of the acromion was "bare and rough;"—it was removed by the cutting pliers; the glenoid cavity was divested of its cartilage, but otherwise sound:—it was left undisturbed. This case ended favourably. When Mr. Syme last saw the patient, four years and a half had elapsed since the performance of the operation. She could move the limb across the chest, both forwards and backwards, with considerable force and freedom, but had very little power of abduction. The arm was about an inch shorter than the other. We think there can be no doubt that such a member is vastly better than none. The second case was not so favourable. At the time of the operation, the patient, a man, had symptoms of thoracic disease. The root of the coracoid process and upper part of the glenoid cavity were carious; they were freely removed by the cutting-pliers. In six weeks the wound was nearly healed. Then an old sinus, which ran along the supra-spinous fossa, became larger—his pectoral complaints inreased—and in six months after the

operation he died. The lungs were extensively affected. The extremity of the humerus was rounded off, and connected to the scapula by strong ligamentous bands. Nothing is said of disease still remaining in the scapula. Such was the issue of Mr. Syme's cases. It appears that in neither was the scapula extensively diseased, and perhaps it would be a fair induction from the first to suppose, that where the disease is confined, or nearly confined, to the head of the humerus, and no visceral alterations exist, the operation of excision offers a reasonable chance of success. We conceive that there is nothing in the cases we are now about to relate, which is calculated to disprove such a supposition. But we anticipate. We are sure that the only method of determining the value of this, or of any doubtful plan of treatment, is to lay before the public a candid and explicit detail of facts. They cheat the world, inflict a vital injury on science, and degrade themselves, who hastily publish their successful cases, but forget to recount their subsequent failures.

CASE 1.—*Disease of the Shoulder-joint—Scapula implicated—Excision of the Head of the Humerus—Issue unfortunate.*

Sarah Jones, æt. 18, admitted March 2d, 1831, under Mr. Brodie.

General enlargement and globular form of left shoulder commencing, near the sternal end of the left clavicle, and increasing gradually to either border of the axilla, where the tumefaction is most marked. Integuments rather blue, with enlarged cutaneous veins. Swelling firm, save at the anterior border of the axilla, where a degree of puffiness almost raises the suspicion of the existence of deeply-seated matter. Deltoid was wasted, as is the whole upper extremity, offering a striking contrast to the fulness of the thoracic portion of the shoulder. Over the centre of the left clavicle is the opening of a sinus, in which the probe passes beneath the clavicle towards the neck of the scapula and coracoid process. Other sinuses over the coracoid process—opposite the posterior surface of the neck of the scapula—at the lower and posterior border of the axilla, the latter apparently leading to the inferior costa of the scapula, below the neck. Over the anterior surface of the humerus, about two inches below the joint, the cicatrix of a sinus, and posteriorly another similar cicatrix. Much pain on pressure of the diseased parts, on employing the probe, or on attempting to move the joint. Arm retained in the position of approximation to the side, but not anchylosed, though incapable of much motion, from the condition of the soft parts, and the pain occasioned by such an attempt.

Complains of pain occasionally in the front of the chest—back of the shoulder—but chiefly in the side of the neck; the pain shoots down to the fingers. Pain worse by day than by night.

Health indifferent. She looks pallid, and older than she is—has slight cough at times, without expectoration—shooting and transient pains in the chest—some hectic—appetite good—bowels variable. She has never menstruated.

About six years ago, she received a slight blow upon the shoulder. Five years ago, a small swelling formed on the scapular part of the shoulder, and one year afterwards the present disease commenced. She entered this hospital, and Mr. Brodie, under whose care she was, applied a caustic issue. From that time to this, the disease has continued to make progress. A year or two ago, she refused to have the arm removed at the shoulder-joint, an operation which Mr. Brodie proposed. Has had startings at night, and a disposition to perspirations from the first. Cough has existed for a few weeks.

Such were the symptoms of the complaint, and such its history. The former we have given fully—they were evident facts. The latter we have related cursorily, for whoever has watched cases carefully, knows that long and complicated histories are always fallacious.

On the 28th, there was a consultation of the surgeons of the hospital. It was determined to cut down upon the joint, and, if possible, remove the diseased portions of bone.

A director was passed down a sinus to the bare part of the scapula, below its spine. A large scalpel was passed under the guidance of the director to the bone. The incision was then downwards and forwards to near the insertion of the deltoid—from this another incision was carried nearly directly upwards through the substance of the deltoid to the acromion, forming a flap of the posterior half of the deltoid. Flap raised —several large pieces of carious and dead bone with loose portions of the scapula removed with dressing forceps. Head of humerus then raised, carried outwards, sawed off with the keyhole saw. Several vessels were tied during the operation—there was considerable venous bleeding—one vessel lying deep could not be tied: here blue-tint was introduced into the wound, and pressure made upon it. The soft parts were much thickened and altered. The flap was brought down, a single piece of lint introduced between the sides of the wound—light bandages supporting elbow.

On examining the excised head it was found nearly destroyed by caries, which extended for an inch, or so, down the inner side of the neck. About an inch and a half of the shaft had been removed; this was white, apparently dead, with no periosteum on it. The shell of bone was not a line thick—the medulla pale, soft as jelly—the diameter of the whole shaft not exceeding half an inch.

We shall not enter much into detail with this case, but content ourselves with mentioning the more prominent features of it.

An opiate was given immediately after the operation and repeated at 4, p. m. On the 30th she was ordered beef-tea, and on the 1st April half pint of porter daily. The pulse before the operation had been about 100. On the day afterwards it was 148, from which it gradually diminished to 120, which it was on the 1st April. The patient was of course weak and irritable. In the evening of the 3d April the little and ring finger, and the ulnar side of the hand of the limb that had been operated on, presented a dull erythematous blush, and were extremely tender when touched. The patient was unusually irritable. On the following morning all the fingers of the affected hand were blue at the extremities, rather painful, not cold; the hand was blue also. The pulse in the radial artery of this side was less distinct than in the other limb. Some sponge which had been passed into the wound came out, but the blue lint remained. The wound looked pallid and glassy.

The patient remained for some time in a precarious condition. The fingers of the affected side continued blue, and became cold and numbed; no pulse could be felt in the radial or ulnar arteries; and for some days there was every appearance of gangrene being about to invade the limb. By the application of warm flannels, &c. the circulation was slowly restored. A great deal of irritation was occasioned by the retention of some blue lint in the wound. Some sloughing took place, and it continued angry and troublesome for a length of time. The dressings were light and calculated to support the limb, the constitutional treatment suited to the character of the symptoms.

The following is a report which we made on the 1st October, upwards of six months after the operation.

The wound itself is healed, but ulcerated openings and sinuses still remain in various places, evidently pointing out the existence of disease of the scapula. Fresh abscesses form every now and then, and are attended with febrile exacerbations. Her health is indifferent—her appearance much as before the operation.

The arm itself hangs powerless by the side; it is supported in a sling contrived for the purpose; she has little or no power of motion, except in the fingers.

We regret to say that the patient is now, December, 1832, dying. Symptoms of thoracic disease have become established. We know not that we add much in any way to our description of the state of the limb written in October 1831.

CASE 1. *Disease of the Humerus and Scapula—Excision of the Head of the former.*

We have unfortunately lost our notes of this case, and must therefore give a brief memorandum of it from memory.

The patient, a huge clodhopper from Uxbridge, about 40 years of age, was received into the hospital under Mr. Babington. He had disease of the right shoulder-joint, but how he got it we have no conception. There were various sinuses leading some towards the head of the humerus, some towards the scapula about its neck and below its spine; the precise situation and extent of the diseased bone were of course uncertain. The limb was anchylosed, but admitted of little motion from the consolidation of the soft parts. The constitutional symptoms were trivial.

Mr. Babington excised the head of the humerus and a portion of its shaft. Whether he removed any of the scapula we cannot positively say; we rather think he removed none. No constitutional or local disturbance of consequence ensued. The operation was performed prior to the occurrence of the preceding case. The condition of the patient at present is, so far as we can learn, as follows:*

The arm is shorter than the other; the fore-arm is usually retained flexed at a right angle, or nearly so, upon the arm. He can move the arm forwards and backwards on the chest, can support a not inconsiderable weight in the hand, and has some power of abduction of the arm from the side. This latter motion is of course the most limited. There is still some disease about the scapula, a sinus opening every now and then, indeed we believe there is one or other always open. His health is good.

CASE 3. *Disease of the Left Humerus and Scapula. Amputation at the Shoulder-Joint.*

This case has been very well reported by an excellent friend of ours in the Medical Gazette. We shall make short work of it.

James Spawforth, æt. 22, admitted July 11th, 1832, under the care of Mr. Brodie.

Left arm hanging powerless by the side—wasted—nearly motionless at the shoulder-joint—much pain in that articulation on attempting to move the arm—little pain in it when at rest. Around the shoulder-joint the openings of seven or eight sinuses, chiefly on the anterior and posterior margins of the deltoid, the central portion of which is consequently free from them—the openings of two or three situated immediately below the scapula spine, to which and to the anterior part of the infraspinal fossa they would seem to lead: here the probe reaches exposed bone—the anterior appear to lead towards the coracoid process and neck of the scapula. The whole aspect of the shoulder is that of diseased bone of scapula and humerus, with ulceration of the cartilages, &c. of the joint.

Aspect pallid, unhealthy—not much emaciation—no cough at present—little hectic—pulse usually 96.

Two years and a half ago he struck his shoulder. In a month it became stiff and somewhat painful. Two months after this Dr. Gordon and Mr. Guthrie applied leeches, blisters, and caustic issues with great benefit. Partial anchylosis would seem to have taken place, and discontented with his lot, he applied to a country bone-setter, who pulled and tugged at the shoulder-joint, and told him all was right.* An abscess soon followed, presented in front of the articulation, and was opened. Since that time several abscesses have formed and burst, and given origin to the sinuses. He has been in this hospital four months, and taken some sarsa and nitric acid to improve his health. Three months ago, whilst in the house, he had a severe attack of what we are told was "bronchitis." He has lived intemperately.

On the 22d November the arm was

* He attends occasionally as an out-patient.

* In one of Mr. Syme's cases the same thing occurred. If fools will seek the aid of scoundrels, they must take the consequences.

removed at the shoulder-joint. We need not be minute in our account of the operation.

The subclavian was commanded by the pressure of an assistant. A flap was made from the deltoid by a hermaphrodite sort of instrument, between a scalpel and an amputating knife. It was formed by two incisions, one commencing behind the posterior margin of the acromion and terminating near the insertion of the deltoid, the other begun anterior to the acromion and carried down to meet the former. The flap was raised, and the consolidation of the parts rendered this less easy than might be supposed—the head of the bone tilted forwards, upwards, outwards, by an assistant holding the elbow—the articulation opened by an amputating knife directed horizontally—the instrument made to coast the head of the bone—the limb severed from the body by one swoop, by turning the edge of the knife downwards, or axillad, and outwards or towards the arm. From this it necessarily resulted that a lower flap, less than the upper was preserved. Imagine this done with decision and dispatch in the midst of the most furious and uncontrollable struggles of the patient, struggles so violent as to make the assistant who pressed on the subclavian all but faint in his efforts to maintain his pressure—imagine this, and the reader will have a far better notion of the operation, than any description of our's would give him.

The lad lost about eight ounces of blood, perhaps more. He was faint and required wine. The vessels were secured as quickly as possible. The axillary, we believe, bled smartly.

It was deliberated whether any of the scapula should be removed. The surface of the glenoid cavity—a portion of the neck below, before, behind it—a portion also of the spine were found by examination to be diseased. In making this examination a cavity near the cervix anteriorly was broken into, and much curdled pus escaped. The restiveness of the patient, his exhaustion, the extent of scapula diseased, decided the consultants not to protract the operation. Some lint was introduced between the edges of the flaps—an opening to the bone maintained—and the dressings completed by light adhesive straps and a roller.

The upper extremity of the bone was sawed vertically in halves. The articulating cartilage was more or less destroyed by ulceration. At the centre of the head the ulceration extended through the shell of bone for a few lines into the cancelli which here were carious. The remaining cancelli of the head, and cancelli of the shaft for two or three inches from the head, were occupied by a yellow unorganised substance, seen in the cancelli of scrofulous bones; below this deposition the cancelli were soft, pulpy, vascular.

Nothing of any consequence has occurred since the operation. The patient has now the ordinary diet, and goes about the ward. On Dec. 7th, Mr. Brodie broke up some adhesions between the posterior margins of the stump, and introduced lint to secure a future opening. The object is, of course, to obtain a free passage for the exit or removal of diseased bone.

Mr. Brodie made some clinical remarks upon the case. After alluding to the particulars of the case, he observed that it had been determined in consultation to amputate at the shoulder-joint, and, if possible, remove the diseased portions of scapula. Mr. B. did not excise the joint, in consequence of the result of the two cases, already related in this report. Having removed the arm, he had not proceeded with the operation, for the reasons we stated in the report. By keeping the wound moderately open, an opportunity would be afforded for the exfoliation of the diseased bone, and as all of it had been fully ascertained and exposed by the finger, there was a fair chance of ultimate recovery, provided the patient's constitution was equal to the effort required. In the course of his remarks Mr. Brodie alluded to the case of a young gentleman whose arm he had removed at the shoulder-joint. In that case there was disease of the articulation, yet not sufficient to prevent subsequent anchylosis and recovery. It was necessary however to amputate in consequence

of repeated hæmorrhages that occurred and were seriously injuring the patient's health. This patient did well and continues so.

II. MALIGNANT TUMOUR IN THE CALF OF THE LEG.

WE have seen three cases of this description, two occurring at this, the third at the Westminster Hospital. We do not intend to become reporter for that institution, yet we venture, for the sake of illustrating the subject, to mention the particulars of the case we saw there.

CASE I. *Tumour in the Calf of the Leg—Amputation—Death from Inflammation of the Vein and purulent deposits in the right Elbow-joint.*

Susan Walker, æt. 38, a laundress in a gentleman's family, admitted October 3rd, 1832, under the care of Mr. Keate.

In the calf of the right leg, a solid oblong tumour, rounded and nearly uniform on its surface, commencing nearly opposite the insertion of the sartorius into the tibia, and extending downwards to nearly opposite the insertion of the fleshy fibres of the solæus into the tendo Achillis, so that the general form of the calf appears merely exaggerated. Tumour hard, resisting, saving on its inner and posterior part, where it is rather elastic. Tumour moveable upon the bone—gastrocnemius and solæus apparently spread over it—skin moveable upon the tumour. No perceptible enlargement of inguinal or other absorbant glands—veins both of affected and other leg varicose. Pain extending in the course of the posterior tibial nerve to the sole and outside of the foot, occasionally along the sciatic nerve to the hip—pain aggravated by walking, and worse at night. Tenderness on firm pressure of the tumour.

Says that her health is good—functions performed pretty regularly—occasionally pain in the back—aspect sallow—slight emaciation.

Two years ago first observed pain in the foot, which was considered rheumatic. There might or there might not have been a swelling in the calf for it was not examined. Various means were used with little benefit. She first observed the tumour about 15 months ago; it was then about half its present size, hard, rather painful. From that time the tumour has increased, though not progressively. She seems to have taken some mercury. She has been unable to follow her occupation for the last six or eight months.

On the 10th Mr. Keate punctured the inner part of the tumour with a needle, and serum issuing, plunged in a small trocar; three or four ounces of yellow serum escaped. The puncture healed. Iodine in the form of ointment, was tried; it irritated the skin and was discontinued on the 24th. In consultation it was determined to amputate the limb. The operation was performed by Mr. Keate on the 25th. An incision having previously been made into the tumour to ascertain the nature of its structure, and that appearing medullary, the limb was amputated above the knee.

On examining the limb after amputation, the tumour was found to be situated between the gastrocnemii and the deep muscles, to which it was more or less adherent above and below. The posterior tibial nerve was enlarged and spread out over the posterior part of the tumour above, and seemed involved in the tumour at its middle. The tumour was enveloped in a cyst one-fourth of an inch in thickness. The structure of the tumour was peculiar; it resembled in parts firm medullary sarcoma, especially that which grows from bone or fibrous membrane; it was chiefly composed of a more "friable" opaque material, of dirty white colour, not unlike the adipocire of a limb macerated with much flesh on it; it displayed cellular partitions; it was little organized.

Opiates were required after the operation. Next day there was slight pyrexia, for which she had salines with antimony. On the 27th she complained of pain in the loins and left iliac region. She attributed it to position, and on altering it she felt relieved.

The bowels being constipated she was ordered aperient medicine.

Vesp. Countenance rather anxious with slight flush—fidgettiness—says she is free from pain—pulse 120, rather sharp—bowels have not acted.

28th. Bowels acted last night, and she slept for two hours this morning. At 3, a. m. she was sick. Some pain in the left iliac region, and whole left lower extremity tender to the touch—slight discharge of brown thin matter from the stump, and issue of a few bubbles of air.

Straps loosened—simple dressing—cold lotion. Salines with hyosciamus.

Towards evening she was sick and restless, with pulse 130. The sickness was relieved by two doses of saline draught with liq. op. sed. ℥x.

29th. Restless—anxious—says her head feels light. Pulse 130, sharp, yet without strength—skin warm—bowels confined. Sparing, dark discharge from stump.

Strapping further loosened. Camphor mixture with ammonia.

Vesp. Occasional wandering delirium.

Strapping removed—adhesions, which were partial, broken up—sloughy cavity of stump exposed. *Warm dressing and poultices. Dover's powder in saline.*

On the 30th she had some aperient medicines which brought away some dark and offensive motions.

31st. Manner hurried—aspect rather collapsed and sallow. Pain on pressure over the iliac vessels on the side of the stump—tenderness also on pressure of the calf of the opposite side. In the evening she was delirious and very restless—her aspect was pallid, anxious—her skin bedewed with perspiration. There was now extreme tenderness on touching the right elbow, the skin on the outer side of which had the slightest erythematous blush, whilst the subcutaneous cellular tissue was infiltrated with serum.

She was ordered camphor mixture with morphia and tincture of hops. She had been allowed for some days beef-tea and arrow-root.

In the morning of Nov. 1st she was much the same. Pulse 130,—tongue dryish, streaked—thirst. The stump was covered with an ash-coloured slough—the limbs trembled.

Vesp. Raving delirium. She screeches, sings, shouts, laughs wildly at the bye-standers. She awoke from sleep in a profuse perspiration. Escape of two ozs. of blood from a vessel, the ligature on which was accidentally pulled.

She continued delirious till 4, a. m. of the following morning—then sank exhausted into sleep, and so remained for two hours—awoke—was sensible—soon afterwards became lethargic—and died at 8, p. m.

Dissection. The head was not examined. There was nothing particular in the thorax or abdomen, with the exception of the spleen, on the surface of which were some common tubercular deposits.

Femoral Vein. Traces of inflammation of its coats, which, for the space of half an inch, were invested with recent lymph. Vein partially filled with coagulum.

Right Elbow joint. Serum in the subcutaneous cellular tissue. Pus in the cavity of the articulation, without ulceration of the cartilage.

Left Leg. Serum effused between the muscles—No pus discovered.

To the details of this case we would direct attention. They are the representatives of a class. Such are the symptoms, and so occurring, which mark inflammation of the veins, or deep, diffuse inflammation of the intermuscular cellular tissue, or even the purulent depôts in the viscera, or in other parts of the body, though, indeed, the depôts ordinarily occur at a late period.

CASE 2.—*Tumour in the Calf of the Leg—Amputation—Death.*

About three years ago, we saw a nearly similar case at the Westminster Hospital. The patient was a middle-aged woman, under the care of Mr. Guthrie. The tumour was situated higher in the calf than in the preceding case, and passed into the inferior portion of the popliteal space. Its history we do not recollect; but we do remember

that, in its external characters, its apparent consistence, &c. it resembled the case we have related. The woman was thin, and looked ill.

Mr. Guthrie amputated the limb above the knee. No tourniquet was used, Mr. White compressing the artery below the groin. We never saw less blood lost in an amputation; but perhaps all assistants may not be so good as Mr. White, nor all operators so dexterous as Mr. Guthrie. However this may be, the operation was performed with the dexterity for which Mr. Guthrie is celebrated, and very little blood was lost. The woman died about a fortnight after the operation. We were informed that she had phlebitis.

The tumor was of much such a structure as in the case of Susan Walker. It presented an ill-organized crumbling mass, of a dirty-white colour, not unlike adipocire. The gastrocnemii were spread over it. The precise tissue from which it grew was uncertain; in this case, the periosteum was separated from the upper portion of the fibula, but the bone itself was not involved in the disease.

CASE 3.—*Tumour in the Calf—Death.*

We remember witnessing, some six years ago, the dissection of a similar case in this hospital. The patient was under the care of the late Mr. Jeffreys. The tumour was in the calf. The gastrocnemii were spread over it. The man died, but whether amputation was performed we cannot say. Our impression is, that the man died of phlebitis, from meddling in some way with the tumour, but that amputation was not performed. In the remarks of Mr. Hey upon fungus hæmatodes, is a case exactly in point; it is his fifth case. We will give it in that excellent practical surgeons's words.

Case. "A boy, about fourteen years old, was admitted an in-patient of the General Infirmary, on account of a large deep-seated tumour in the calf of his leg. The cause of this disorder he judged to have been a sprain, from a sudden and violent exertion; for, soon after this accident, he perceived the calf of the diseased leg to be larger than the other. The tumour had continued to increase during six months, and he was now rendered very lame by it.

It was impossible to ascertain, with precision, either the situation or nature of this tumour. It was clearly situated betwixt the gastrocnemius muscle, and the bones of the leg, and might have its origin near the latter; so that an attempt to extirpate it by incision was out of the question. There was no pulsation in the tumour; nor any discolouration in the integuments. The accident which had preceded the appearance of this tumour rather indicated that it had arisen from the rupture of some vessels in the leg.

Upon a consultation, no probable method of cure was suggested but that of amputation; and, the parents of the boy giving their consent, I performed the operation above the knee.

After the operation I dissected the leg, and found the tumour to consist of a substance similar to that which I have described in the preceding cases, situated between the gastrocnemius and solæus muscle, and extending a little before their edge on the outer side of the leg. Wherever this substance lay in contact with the muscular fibres, they were of a brown colour, and had lost their usual distinct appearance. We could perceive no ruptured vessels; but the lymphatics were not injected.

The patient had a good recovery."

The case must have occurred between 1789 and 1793, and our edition of Mr. Hey's work is dated 1810. Our readers must judge for themselves as to the probability of the recovery having been as permanent as good; but we may remark, that the complexion of many of Mr. Hey's cases is somewhat too favourable for modern experience. At the time Mr. Hey wrote, the visceral contaminations, following operations on external malignant tumours, were not recognized.

It would seem that, in all these cases, the tumor was seated between the superficial and deep muscles of the back of the leg—that it probably grew from the cellular

tissue between them, or from the fascia covering the deeper set—that, in its characters, it approaches nearer to fungus hæmatodes than any other morbid growth—and, from the event of three of the cases, that it is a very dangerous disease.

III. OBSTINATE ULCERATION IN THE GROIN.

We think the following cases not devoid of practical utility. It is true that they are not all of a similar description, and it is not strictly philosophical to bring them thus together in a lump. But this may be excused in a rambling report like the present.

CASE 1.—*Obstinate Ulceration in the Groin—Death from Coma—Sinus found leading to bare Os Pubis.*

This patient was under the care of Mr. Walker, surgeon of the Lock Hospital, and was in that establishment. He was a Greek courier, about 30 years of age, or somewhat older, apparently broken in health, and of an irritable habit.

In the commissure of the right groin was an indolent ulceration—skin around the ulceration rather elevated, warty, whitish, semi-organized—sore not very deep, irregular, with dull red, glassy granulations, and islets of cuticle here and there—sore very irritable and painful. Pulse always frequent—skin rather warm.

This sore had existed for some time, little benefitted by treatment. We saw the oxymuriate employed, but the ulcer became worse under its use. Various other means were employed, and in the latter end of February he seemed better, and was allowed to get out of bed. Two or three days afterwards, the house-surgeon, Mr. Clarke, was called to him suddenly, and found him in a state of coma. He soon died.

DISSECTION. *Cranium.*—A considerable quantity of serum in the ventricles of the brain, which seemed enlarged, and the white substance forming their boundaries was soft. Substance and membranes of the brain perhaps rather more vascular than natural.

Thorax and Abdomen.—Nothing particular.

Sore. This is extended into the adipose and cellular tissues, and seemed to involve, though not to penetrate, the fascia lata, particularly that portion covering the pectinæus muscle. From the sore a sinus extended inwards in the cellular membrane above the fascia, then penetrated the latter, and passed to the tubercle of the os pubis, which was carious. There was not great induration around the sore.

CASE 2. *Obstinate Ulceration between the Scrotum and Thigh—cure.*

A man, young, and though of scrofulous aspect, not otherwise unhealthy in appearance, had been an in-patient of St. George's under Mr. Brodie for six or seven months, when we had the honour of becoming house-surgeon to that gentleman. A long, dangling, irregular sore occupied the space between the right side of the scrotum and the right thigh. It had a very similar appearance to that of the sore in the preceding case—the same high, and, as it were, wetted and warty margins—the same glassy, dull red, small granulations. Skin occasionally formed and again ulcerated. He was put on porter, more generous diet, sulphate of iron and other tonics, with local stimulants, as the tinct. benz. comp. &c. The improvement was soon remarkable, and though it did not continue uninterruptedly, the cure was completed in the course of a month or two. Once or twice the sides of the sore became united superficially, while a sort of sinus or gutter ran beneath. It was then necessary to break up the new skin and begin afresh. After cicatrization the scrotum was puckered into the thigh.

We are not sufficiently acquainted with the early history of either of the preceding cases to warrant us in saying any thing about it. We would be as accurate as possible. Where we entertain any doubt we express it.

CASE 3. *Sore on the Penis—Murcury used—Phagadenic ulceration in the Groin—Tonics.*

A young man, from Putney, was admitted

into the hospital on the 21st Feb. 1832, under Mr. Hawkins.

In the right groin was a large, flat, irregular ulceration—its edges rather undetermined, blueish red—its surface of a dirty yellow colour, with here and there slight ecchymoses—ulcer extending into the cellular membrane, but not apparently through the fascia—no diseased gland observable—much pain in the sore. Looks ill—face pallid—tongue slightly furred—pulse frequent, irritable.

Three months previously he contracted a sore upon the penis. In a fortnight after that a bubo appeared in the right groin. In five or six days after that he went to Mr. Shillito, a very respectable surgeon at Putney, who gave him mercurial pills, and kept his mouth sore for five or six weeks. The quantity of mercury taken daily was varied a little, according to the state of the mouth. At the end of this course the sore was healed; its exact time of healing we do not know. In a week or ten days after commencing the mercury "the bubo broke.' When the mercury was discontinued there was a sore in this situation larger than a crown piece. Various draughts were taken, but his health became more severely implicated and the sore increased. Under these circumstances he entered the hospital.

24th. *Hyd. sub.* gr. v. *h. s. H. sennæ cras.*

26th. Sore spreading—very low.

Mist. camph. c. Ammon. carb. gr. vii. *Tinct. opii*, ℥x. *6tis. horis. Cat. douci. Ol. ric. cras.*

March 1st. Sore spreading downwards on the thigh and inwards towards the perinæum. Constitutional symptoms as before. Looks pinched and anxious.

Tinct. opii, ℥xx. *in. H. ol. ric.*

3rd. *Cat. lini. c. Liq. plumb. acet. Cal. pulv. ant.* āā gr. iij.—*Pulv. opii*, gr. j. *h. s. s.*

6th. *Lot. acid. nit.* (gtt. ij. ad aq. ʒj.) *H. Sennæ cras. Rep. H. 4tis. hor. c. Tr. opii*, ℥xxv. *Vini rubri.* ʒiv.

8th. Sore has spread very considerably in extent, and is now larger than the palm of one's hand. Sore of the same character as before—not materially increased in depth. Pulse frequent, weak—tongue moist, whitish—looks pinched and blueish.

Rep. Haust. c. Tr. opii, ℥xxx. *Mist. camph. Dec. cinch.* āā. ʒvi. *Conf. arom.* ℈j. *Ammon. carb.* gr. v. *Tr. opii*, ℥xl. *6tis. hor. Vini. rubri*, ʒviii. *Ol. ric. cras.*

10th. Improved—granulations in the sore, which has ceased to spread, and in parts shews florid edges. Looks better.

Hyd. sub. gr. ij. *Opii*, gr. iss. *o. n. H. Sennæ stat.*

19th. *Rep. Haust. c. Tinc'. opii*, ℥xviii. *tanto.*

23d. *Hyd. sub.* gr. j. *Opii*, gr. ½ *o. n.*

25th. Sore healing rapidly—health much improved.

H. cinch. c. Ammon. carb. gr. v. *Conf. arom.* ℈j. *t. d. s. Cerevis. fort.* Oj. *quotid. Haust. anod. o. n.*

Om. alia medica. et vinum.

On the 17th the ulcer was nearly healed; on the 24th it was quite so. We should state that the diet in the first instance consisted of beef-tea, arrow-root, and food of that description, and subsequently of animal food, when the patient's appetite was equal to it.

Our narrow limits prevent us from noticing some other cases, which we had intended to report.

LXVIII.

Part V. of the Anatomical Atlas of Dr. M. J. Weber, Professor at the Royal Prussian University, Frederick William, at Bonn.

We have noticed with much commendation the previous parts of this anatomical atlas. In our favourable opinion of it we have not stood alone, many of our best anatomical teachers and surgeons having given their testimony to its merits. The present part consists of 13 folio plates, the representations being, in most instances, nearly as large as life, and in many larger. Some are lithographic—others, for instance, the delineations of visceral structure and of the nerves, are engravings. The vessels are coloured. The Part displays the whole anatomy of the ligaments—two plates, from Scarpa, of the Nerves of the Neck and

Chest, and three Plates, displaying the anatomy of the male generative and urinary organs, and the female generative organs and mamma. We can speak of them in very commendatory terms, and not less commendatory than merited. We may give a sample of the whole, by mentioning the manner in which the ligaments are delineated. An anterior and a posterior view being given, separate views of the individual ligaments are added, and thus a complete representation is presented. The plates are accompanied by a letter-press explanation, in German and in English. The price of each part is one guinea. We beg again to recommend the work to those who are anxious to acquire, or to maintain anatomical knowledge.

LXIX.

PRINCIPLES AND ILLUSTRATIONS OF MORBID ANATOMY, ADAPTED TO THE ELEMENTS OF M. ANDRAL AND TO THE CYCLOPÆDIA OF PRACTICAL MEDICINE, WITH WHICH IT WILL CORRESPOND IN SIZE; BEING A COMPLETE SERIES OF COLORED LITHOGRAPHIC DRAWINGS, FROM ORIGINALS, BY THE AUTHOR; WITH DESCRIPTIONS, AND SUMMARY ALLUSIONS TO CASES, SYMPTOMS, TREATMENT, &c. DESIGNED TO CONSTITUTE AN APPENDIX TO WORKS ON THE PRACTICE OF PHYSIC, AND TO FACILITATE THE STUDY OF MORBID ANATOMY IN CONNEXION WITH SYMPTOMS. By J. HOPE, M.D. F.R.S. Physician to the St. Marylebone Infirmary, &c. London, Whittaker and Co. 1833.

THE following is the plan on which this work is to be conducted.

"The work will consist of Twelve Monthly Numbers, each containing 25, or more, highly finished, coloured Lithographic drawings, from originals by the Author, executed with a view to the exhibition of the minute structure, no less than of the general characters of the several morbid alterations. The quantity of Letter-press will be adapted to the subject. The size Royal Octavo.

The arrangement will be according to organs, as being best adapted to the study of the diseases of organs; but the lesions of each organ will be considered in reference to the particular tissues which they occupy on the principles of General Anatomy.

The descriptions will be, for the most part, copies of those taken from the original specimens; but reference will be made, where necessary, to the corresponding descriptions of Andral, of other authors, and of the Cyclopædia.

The Author having, with few exceptions, taken the histories of the cases personally, he will, from the funds thus supplied, render the Work as practical as is compatible with its character, adverting very succinctly to the nature of each instructive case, and to the connexion between the lesion and the symptoms.

The price of each Number, coloured, will be Eight Shillings and Sixpence; and the several subjects will be complete in their respective Numbers, in order that, if desired, a portion only of the Work may be accessible to purchasers."

Such is the plan of the work. By the kindness of Dr. Hope, the first part is now before us, although it will not be actually published till the 1st of Jan. 1833.

On the importance of morbid anatomy we need say nothing; neither need we stop to discuss the extent to which it may be carried with advantage. We are not among those who anticipate evil from the zeal with which this portion of medical science is studied. False theories and brilliant hypotheses may be prejudicial to the cause of truth; the pursuit of exact investigation never can be so. Individuals may be led away, may be rendered ridiculously sceptical or overweeningly arrogant, according to the state of mind in which they examine and argue on facts; but exact knowledge, we repeat, can never be extensively or permanently injurious. Morbid anatomy has been as the spear of Ithuriel to medicine; has disclosed what is demonstrable and what is vague; and given, and will give, to our science all of the genuine inductive character of which it is susceptible. We hail, then, the appearance of good works on morbid anatomy with unfeigned gratification, and we feel assured that they will be productive of that best of all effects, the *general* diffusion of scientific information.

At this late period of the quarter we can

do little more than direct attention to the work before us. Let us look at it a little in detail.

The present, or first part consists of four lithographed coloured plates, and 23 pages of letter-press. The subject to which it is devoted is pulmonary disease, and the particular affections delineated and described are—acute and chronic peripneumony—gangrene of the lungs—abscess of the lungs—and pleurisy.

Each plate contains several figures, severally representing particular lesions or varieties of lesions. The size of the plate is, as has been mentioned, what is technically termed royal octavo, that is, about the size of the Cyclopædia of Practical Medicine. The size of the particular figures varies according to the character of the lesion; thus a drawing of gangrene of the lung occupies nearly two-thirds of the first plate, whilst Fig. 19, shewing tubercles passing from the grey to the yellow state, is not an inch square.

The execution is extremely good—the outline clear—the tints distinct yet not overcharged—the character of the lesion defined yet not exaggerated. As drawings, these delineations possess high merit, and yet that almost irrepressible sense of the beautiful, the τοκαλον, which animates all who pursue the lovely art, has not seduced Dr. Hope into sacrificing truth for its sake.

The present part contains 30 figures. Amongst the best we would venture to point out the representations of diffuse gangrene of the lung—purulent infiltration—pulmonary granulations of Bayle—cavern in the lung with bands—and some of the delineations of tubercle. All lesions are not represented with equal facility; those offer least difficulties in which the tints are most uniform and present most body, or in which the contrasts are definite and decided. Thus the lobular hepatization seen on the pleura, and the purulent infiltration in its most advanced stage, (figs. 9 and 8,) are so characteristic, that they would convey to the mind of the most inexperienced student an image, the reality of which would be immediately recognized when the actual lesion came before him. We do not think the purulent deposites after injuries (fig. 10) so plainly drawn, and some of the designs of tubercular infiltration do not appear to us to have that instantaneous force of truth, possessed by those we have particularly commended. But—

> "He jests at scars who never felt a wound;

and the critic in his easy chair may point out defects that all the limner's art could never rectify.

The price of each part is eight shillings and sixpence, and the general feeling will be one of surprise at the extreme cheapness. We know that Dr. Hope can receive no pecuniary remuneration from the work. He labours for fame. Dr. Hope is right. At the present period it would be utter folly to expect that a work which could *pay* would *sell*. The man who embarks in such undertakings as these must be content with the solid reputation which merit will confer upon him, and the indirect emolument that reputation will draw after it. It must not be the speculation of a bookseller; it must be the careful anxious production of an able and industrious man, willing to take the chance of ultimate advantage, or, even if that fail, not utterly disappointed at obtaining the solitary recompence of well-earned, and freely accorded fame. This may be discouraging to mere speculators. We do not care if it be so. We are sure that it is not discouraging to him of a true philosophic spirit, a spirit, we regret to say, more prevalent abroad, than in this commercial and too sordid country.

Did we address after this any personal commendation to Dr. Hope, we lay ourselves open to the imputation of indulging in panegyric. We shall say no more than that we are glad to find the work in his hands, and that we shall feel great pleasure in bearing ample testimony to its merits. We again regret that our crippled limits, and the late period of the quarter prevent our noticing it more fully, and particularly from referring to the letter-press.

BIBLIOGRAPHICAL RECORD.

OR,

Works received for Review since the last Quarter.

1. A Treatise on the Epidemic Cholera, as it has prevailed in India; together with the Reports of the Medical Officers, made to the Boards of Bengal, Madras, and Bombay, &c. with a critical Examination of all the Works which have hitherto appeared on the Subject. By FRED. CORBYN, Esq. Surgeon on the Bengal Establishment. Octavo, pp. 389. Calcutta, 1832. Parbury and Co. Leadenhall Street, London.

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2. Animal Mechanics, applied to the Prevention and Cure of Spinal Curvature and other Deformities. By T. SHELDRAKE. Part I. dedicated by permission to the King. One Vol. 8vo, pp. 347. September, 1832.

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3. The Anatomy of the Horse; embracing the Structure of the Foot. By WILLIAM PERCIVALL, M.R.C.S. Veterinary Surgeon in the First Life Guards. One Vol. 8vo, pp. 454, price 20s. Longman and Co. 1832.

☞ *A highly valuable work for the veterinary student.*

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4. The Law of Fire and Life Insurance and Annuities, with practical Observations, &c. By CHARLES ELLIS, of Lincoln's Inn, Esq. Barrister at Law. Octavo, pp. 263. 1832.

☞ *A very useful book for those whom it may concern.*

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5. New Theory of the Influence of Variety in Diet in Health and Disease, accounting for many obscure Affections hitherto but little understood, and tending to elucidate the Nature and requisite Treatment of the existing Epidemic Cholera. By CHARLES CAMERON, Surgeon, R.N. Octavo, pp. 104, 1832.

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6. A practical Treatise on Cholera, as it has appeared in various Parts of the Metropolis. By ALEXANDER TWEEDIE, M.R.C.S. and CHAS. GASELEE, M.R.C.S. &c. Octavo, pp. 79. October, 1832.

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7. The Nature and Treatment of the Epidemic Cholera. By ROBERT VENABLES, A.M. &c. Octavo, pp. 52. Oct. 1832.

8. Four Lectures on the Study and Practice of Medicine; delivered, on different Occasions, in the University of London. By JOHN CONOLLY, M.D. late Professor, &c. in the University. Small 8vo, pp. 177. Oct. 1832.

☞ *We warmly advise the perusal of these four Lectures to every student of medicine. They will repay him tenfold, in moral as well as physical profit.*

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9. A Dictionary of Practical Medicine; comprising General Pathology—the Nature and Treatment of Diseases, Morbid Structures, and the Disorders especially incidental to Climates, to the Sex, and to the different Epochs of Life; with numerous Prescriptions for the Medicines recommended—a Classification of Diseases according to Pathological Principles—a copious Bibliography, with References, and an Appendix of approved Formulæ; the whole forming a Library of Pathology and Practical Medicine, and a Digest of Medical Literature. By JAS. COPLAND, M.D. Consulting Physician to Queen Charlotte's Lying-in Hospital, Senior Physician to the Royal Infirmary for Diseases of Children, &c. Royal 8vo, pp. 336, and Appendix, p. 16, of Formulæ. Part I. Oct. 1832, price 9s.

☞ *The beginning of a most valuable work. See Review.*

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10. A short Treatise on Cupping. By MONSON HILLS, Cupper to Guy's Hospital. Duodecimo, pp. 88. Cox, Borough, price 3s. 6d., 1832, with three Lithographic Plates.

☞ *This little volume contains many ingenious suggestions and original observations.*

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11. Observations on the Powers and Effect of Cold, as a Cause of Disease; with some Remarks on the best Means of preventing its Morbid Effects. By JOHN CLENDINNING, M.D. of Edinburgh and Oxford, &c. Octavo, pp. 39. Reprinted from the Med. and Phys. Journal.

☞ *A very practical and ingenious essay on an interesting subject. See Periscope.*

12. Elements of Materia Medica and Therapeutics, including the recent Discoveries and Analyses of Medicines. By A. T. THOMSON, M.D. &c. Professor of Materia Medica in the University of London, &c. Octavo, pp. 747. Vol. I. Longman's 1832.

☞ *This valuable work in our next.*

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13. A Critical Enquiry respecting a new Membrane in the Eye, discovered by Mr. George Hunsley Fielding, and described by him in a Lecture delivered at Oxford, &c. By WILLIAM GORDON, F.L.S. &c. Octavo, pp. 42, sewed. Oct. 1832.

☞ *This is a sharp examination, and, as is averred, a refutation of Mr. Fielding's discovery.*

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14. The Substance of the Official Medical Reports upon the Epidemic called Cholera, which prevailed at Dantzick, &c. By JOHN HAMETT, M.D. Octavo, pp. 190. Nov. 1832.

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15. Essay on the Natural History, Origin, Composition, and Medical Effects of Mineral and Thermal Springs. By MEREDITH GAIRDNER, M.D. Octavo, pp. 420. Edinburgh and London, 1832.

☞ *This is a work of extreme research, ingenuity and utility.*

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16. A Lecture, introductory to the Course of Anatomy and Physiology, delivered in the Medical School, Aldersgate Street, London, upon the opening of the Session, 1832. By ROBERT TODD, M.A. Lecturer on Anatomy, pp. 20. Nov. 1832.

☞ *An appropriate and sensible address.*

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17. An Essay on the Structure and Functions of the Skin; with Observations on the Agency of Atmospheric Vicissitudes, through the Medium of the Skin, in the Production of Affections of the Lungs, Liver, Stomach, Bowels, &c. By WM. WOOD, M.D. Physician to the Newport Dispensary. Octavo, pp. 172. Nov. 1832.

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18. An Account of the first Meeting of the Provincial Medical and Surgical Association, held in the Board-Room of the Worcester Infirmary, July the 19th, 1832; containing an Address delivered by CHARLES HASTINGS, M.D. together with a correct Report of the Proceedings of the Meeting, pp. 46. Nov. 1832.

☞ *Already 267 members have joined the Association, and success appears certain.*

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19. The Cyclopædia of Practical Medicine, for September, October and November, viz. Nos. IX., X., and XI.

☞ *This national work has now got as far in the alphabet as* IND, *and keeps up its reputation. The pressure of temporary matters has prevented our devoting as much attention to particular subjects as we intended; but the great circulation of the work renders this of less consequence.*

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20. Description of the Appearances observed in a Case of double Uterus, in which Impregnation had taken place, with Remarks, &c. By ROBERT LEE, M.D. Octavo, pp. 36, with Plates. Nov. 1832.

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21. Practical Remarks on the Epidemic Cholera, which at present prevails in Belfast and Vicinity. By THOMAS THOMPSON, M.D. Surgeon R.N. Octavo, pp. 35. Nov. 1832.

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22. Tables for the Chemical Analysis of Inorganic Bodies. Quarto, pp. 15. Maclachlan and Stewart, Edinburgh, Nov. 1832, price 2s. 6d.

☞ *Collected with great care, and compressed with great art.*

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23. A Lecture on the Nature, Causes, and Prevention of Cholera, delivered at the Ivanhoe Baths' Assembly Rooms *Ashby-de-la-Zouche*, on Monday, 17th Sept. 1832, in Aid of the Funds of the Cholera Provident Society, and published at the particular request of the Board of Health of that Place. By JAMES M. S. KENNEDY, M.D. Royal Octavo, pp. 36. 1832.

See Periscope.

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24. An Address delivered in King's College, London, at the Commencement of the Medical Session, October 1st, 1832. By J. H. GREEN, F.R.S. &c. Octavo, pp. 43. Nov. 1832.

☞ *A most learned and eloquent address, as might be expected.*

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25. A Treatise on Inflammations; explaining their Pathology, Causes, Consequences, and Treatment, with their Effects

on the various Textures of the Body, being an Extension of a Dissertation on "Inflammation of the Membranes," to which the Jacksonian Prize, for the year 1828, was awarded by the Royal College of Surgeons. By GEO. ROGERSON, Surg. of Liverpool. Vol. I. pp. 459. Octavo, London, Nov. 1832

☞ *The second volume will shortly be published.*

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26. The Heliotrope, or Pilgrim in Pursuit of Health. Canto the first. Octavo, pp. 57. London, Dec. 1832.

☞ *The author appears to have been an invalid who voyaged to Genoa, and thence travelled to Pisa, for his health. The poetry is an imitation of Childe Harold, and is highly descriptive of the scenes through which the pilgrim passed.*

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27. Floriculture, comprising the general Management and Propagation of Stove, Green-house, and hardy Herbaceous Plants, hardy Trees, and Shrubs. By Mr. JOSH. MANTELL, Surgeon. Royal 8vo, pp. 36, 1832.

☞ *By the simple arrangement here adapted, Mr. M. has been able to comprise in a few pages the substance of Swect's Botanical Cultivator, an 8vo volume of 700 pages.*

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28. On the Extermination or Annihilation of Cholera. A Lettter to Lord Melbourne from Dr. SANDERS, of Edinburgh.

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29. Plain Rules for the Treatment of Spasmodic Cholera on Board of Ships. Intended for the Use of Commanders of Vessels at Sea, when Medical Aid cannot be procured. By EDWARD GREENHOW. Pp. 11, price 3d.

☞ *Very well adapted to the end designed.*

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30. Cases of Cholera collected at Paris, in the Month of April, 1832, in the Wards of Messrs. Andral and Louis, at the Hôpital de la Pitiè. By JAMES JACKSON, jun. Boston, 1st Nov. 1832.

☞ *These cases (60 in number) have been scrupulously recorded at the bedside, with dissections, therapeutic means, &c. They form a valuable record, where fidelity and minute accuracy are so much required.*

31. A System of Materia Medica and Pharmacy, including Translations of the Edinburgh, London, and Dublin Phamacopœias. By JOHN MURRAY, M.D. &c. Lecturer on Chemistry, Materia Medica, and Pharmacy. *Sixth Edition*, adapted to the present State of Chemical and Medical Sciences. By JNO. MURRAY, M.D. Fellow of the Royal College of Surgeons, &c. Octavo, pp. 886, 1832, price 20s.

☞ *Some notice of this valuable work in our next Number.*

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32. The Cyclopædia of Practical Medicine, Part XII. Dec. 1832.

☞ *The work has now reached as far as "INFLAMMATION," and we perceive in the last two parts some highly valuable articles.*

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33. Elements of Surgery. By ROBERT LISTON, &c. Part the Third. Octavo, pp. 409, Dec. 1832.

In our next.

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34. A Treatise on the Urethra; its Diseases, especially Stricture, and their Cure. By BENJAMIN PHILLIPS. Octavo, pp. 317, with a Plate, 8s. bds.

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35. Elements of Diagnosis, general Pathology, and Therapeutics. By ROBERT NORTON, M.D. M.R.C.S. Octavo, pp. 100, with Appendix. Jackson, Borough.

☞ *Most of the materials of this little volume are derived from memoranda and recollections of unpublished Lectures of the late Dr. Armstrong. The author appears to be exceedingly religious, and has appended to his book some account of the last days and sentiments of Dr. Bateman.*

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36. Medical Botany; or Illustrations and Descriptions of the Medicinal Plants of the London, Edinburgh, and Dublin Pharmacopœia, including Poisonous Vegetables, &c. By Dr. STEPHENSON and Mr. CHURCHILL. New Edition, edited by Professor GILBERT BURNETT. Nos. I., II., and III. John Churchill, Princes Street, Soho, Oct. Nov. and Dec. 1832, price 2s. 6d. each Number.

☞ *This new edition, greatly improved in value and reduced in price, will be found a most acceptable present to the botanical student, and the lover of botany in general.*

THE

Medico-Chirurgical Review,

No. XXXVI.

JANUARY 1, TO APRIL 1, 1833.

I.

LECONS ORALES DE CLINIQUE CHIRURGICALE, FAITES A L'HÔTEL DIEU DE PARIS. Par *M. le Baron Dupuytren*, Chirurgien en Chef. Recueillies et publiées par une Société de Médecins.—(Clinical Lectures on Surgery, delivered at the Hôtel Dieu at Paris. By Baron Dupuytren.) Tome I. Paris; 1832.

A COMPARISON of modern medical literature with that which has preceded it, exhibits the most striking difference in the preponderance of facts over opinions and theories. That a disrelish for the latter, and consequent taste for the former, is increasing, not only among medical readers, but in society in general, is equally evident. Intelligible facts will alone sell, whether in the form of Penny Magazines, or in treatises written by Brewsters or Babbages. The few medical works which have escaped the destroying hands of trunk-makers, or the conversion into "shrouds for pilchards and red herrings," are those alone which have contained a large preponderance of facts. The few theories in which Hippocrates indulged, or the occasional opinions of Sydenham as to the proximate causes of diseases, are rescued from the oblivion to which they would have been necessarily consigned from their absurdity, only by their being appended to practical remarks which will ever continue valuable, as the expression of facts discovered by close observation. The description of diseases by Celsus and Aretæus are pregnant with instruction, and will last as long as medicine continues to be studied; but who now, except for amusement, or as a matter of history, peruses the wild theories of Paracelsus, or many of the more modern medical vagaries of Darwin or Beddoes. Not that such imaginative men of genius are without their ultimate use, by setting inferior intellects at work in channels which they would never have beaten out for themselves. This increased attention to the importance of facts in studying disease cannot be promoted more effectually, than by clinical instruction, fully carried into effect as it is in the French hospitals. No plan is more adapted for testing the merits of the doctrines of the Professor, or of estimating the advant-

ages of the treatment he pursues. The value of any mode of practice, as laid down in lectures, can alone be tested by experiment; in clinical instruction, the principles are illustrated by actual practice, and the vacant bed, the "dead-house" table, the distorted limb, or unexpected post-mortem appearances are facts which cannot be hidden, and which, on a large scale, can never be set aside by specious reasonings. That this teaching by example, and illustrating general principles by actual cases, is the mode of all others the most calculated to make a permanent impression on the mind of the student, few will be disposed to deny. We were, therefore, glad to see the announcement of a work purporting to be the clinical lectures of Baron Dupuytren, who, as a professor of clinical surgery to the School of Medicine in Paris, stands without a rival. The printed lectures have not the sanction of M. Dupuytren's name, but, as the most important cases have been furnished by MM. les Docteurs Marx, Paillard, and Fournier, pupils and friends of the Baron, it is not probable that they are published without his approbation. Considerable difficulty must have been experienced by the reporters in the compilation of these lectures, from the disjointed way in which they are frequently delivered. The report of the progress of the most remarkable cases, with the observations it may suggest, being given daily. If M. Dupuytren has in his wards many similar cases of particular interest, he makes them the excuse for a surgical disquisition on the peculiar disease; if this requires a lengthened discussion, he resumes it daily, after giving the report of the cases under treatment. Thus, in process of time, his clinical lectures embrace every topic in surgery. Two thick octavo volumes are just published, containing these lectures, with a promise that the subject will be continued. The plan which M. Dupuytren adopts, in order to arrange the arguments on both sides, or the diagnostic signs in the clearest manner, for the instruction of his class, by putting questions which he himself answers, has not been interfered with. These volumes must, therefore, contain much elementary matter, which would be deemed superfluous in a written treatise; in the analysis which we intend to give, we shall of course omit all such particulars, and, by pruning and compressing, we shall endeavour to put our readers in possession of all that is new or valuable.

ART. I.—ON PERMANENT RETRACTION OF THE FINGERS.

The cause of this peculiar retraction of the fingers, and particularly of the ring fingers, has been attributed by different authors to rheumatism, gout, external violence, fracture—to the effects of inflammation of the tendons of the flexor muscles, or to a species of anchylosis. Boyer, in his Traité des Maladies Chirurgicales, denominates it crispatura tendinum, but describes it very superficially. It affects those individuals whose occupation causes

them to make a point-d'appui of the palm of the hand. Thus, it has been observed in coachmen, who are obliged constantly to use the whip—in keepers of wine-shops, who are continually tapping their wine-casks—in masons, who grasp stones with the extremities of their fingers—in farmers, and, in one instance, in a man with a large correspondence, who took particular pains in sealing his letters. We remember to have seen it in both the hands of an inferior officer in the revenue service, who had been accustomed to steer, for a long series of years, the Custom-house boats, and, consequently, to hold the ropes continually in the palms of each hand. It commences by the individual perceiving that he can extend with less ease the fingers of the affected hand; the first phalanx of the ring finger is first retracted, but, at this time, its palmar surface presents no nodosity, its two last phalanges are straight and moveable, although the first is bent at a greater or less angle, and cannot be rendered straight by the most violent force. One person, in order to cure this, lifted with the finger different weights, until he supported 150 lbs. without extending the phalanx. When the ring finger is very considerably bent, the skin is thrown into folds, whose concavities are towards the fingers, and convexities towards the radio-carpal articulation; this is owing to the natural adherence of the skin with the diseased parts beneath, and not to any disease of the skin itself, which dissection proves is unaffected. On touching the palmer surface of the ring finger, a tense cord is felt, extending from the top of the finger to the superior extremity of the palm of the hand; this almost entirely disappears on bending the finger. On endeavouring to extend the finger, it will be seen that the tendon of the palmaris brevis is put in action, and that this motion is extended to the superior part of the palmar aponeurosis; the continuity of these parts explains their simultaneous action. At this period, the adjoining fingers cannot be completely extended, the patient can grasp only small substances, and, if he squeezes them strongly, he feels acute pain; whilst his hand remains at rest, there is no pain, but it comes on if he extends his fingers forcibly. M. Dupuytren has been consulted in upwards of thirty or forty cases, and he has been in the habit, in his clinical lectures, of bringing forward the opinions of a crowd of authors, as to the nature of the retraction; these, or the arguments against them, we shall not here enter into, but proceed at once to the detail of the dissection, which explained to the Baron the cause of the deformity, which had not hitherto been suspected.

M. Dupuytren having obtained the arm of a man who had just died, and whom he knew was subject to this affection, commenced the dissection by taking off the whole of the skin from the palm of the hand, and the palmar surfaces of the fingers; the folds and wrinkles entirely disappeared, shewing clearly that the disease was not situated in the skin itself. On exposing the palmar aponeurosis, it was found stretched, retracted, and diminished in length; from its inferior part proceeded the kind of cords which were attached to the sides of the affected finger. On endeavouring to extend the fingers, the aponeurosis became tense and crackled; on cutting the prolongations of it, which were attached to the sides of the fingers, the contraction ceased, the fingers returned to their usual state of demi-flexion, and the least effort completely extended them. In order to leave no part unexamined which might be implicated in this affection, M. Dupuytren exposed the tendons, and found their size, their mobility, and their polished surfaces

perfectly natural; as well as the bones, the ligaments, and the joints themselves, in a completely normal state; he was then justified in concluding that the contraction was owing to an unnatural tension of the palmar aponeurosis, produced by a contusion of the part, the consequence of the too strong and too prolonged action of a hard body in the palm of the hand. The diversity of opinions as to the cause of this deformity has necessarily produced much uncertainty in the employment of therapeutic agents. M. Bennati, in consulting Sir A. Cooper as to the case of an Italian, named Ferrari, who was subject to this retraction, was told by him that it was incurable. Such is also the opinion of many other surgeons. M. Dupuytren had tried fumigations of emollient vapours, cataplasms, leeches, mercurial frictions, douche baths of every sort and temperature, without success. In one case he tried permanent extension by a machine contrived for the purpose, but the pain it produced was so severe that he abandoned it. The flexor tendons have been divided in two instances, but to no purpose; and in one case the patient's life was endangered by the inflammation extending along the sheath of the tendons. Shortly after these operations M. Dupuytren was consulted in the following case.

In 1811, M. L., a wine merchant of Paris, having received a stock of wine from the South, assisted his workmen in arranging the casks one upon another in his cellars. In raising a very heavy cask by placing his left hand beneath its prominent edge, formed by the ends of the staves, he felt a cracking, and a slight pain in the palm of the hand. Increased sensibility and stiffness remained for some time, but these symptoms gradually disappeared. The accident was almost forgotten, when he observed a slight retraction of the ring-finger towards the palm of the hand, so that he was unable to extend it as much as the others. There was no pain, and he neglected the slight deformity, which every year became more marked. At the commencement of the year 1831, the little and ring fingers were completely flexed, and applied to the palm of the hand; the second phalanx was folded on the first, and the extremity of the third touched the middle of the cubital border of the palmar surface. The skin was thrown into folds, and drawn towards the base of the two retracted fingers. M. L. now consulted several practitioners, who recommended the division of one or both of the flexor tendons; subsequently M. Dupuytren was consulted, who immediately stated that the disease was not situated in the tendons, but in the palmar aponeurosis, a division of which would produce a free motion of the fingers. The operation was thus performed. The hand being firmly fixed, M. Dupuytren commenced by making a transverse incision, of ten lines in length, opposite the articulation of the phalanx of the ring finger with its metacarpal bone; the bistoury divided at first the skin, and next the palmar aponeurosis, with an audible cracking sound; the finger immediately straightened itself, and could be extended with almost as much ease as when in the natural state. Wishing to avoid the pain of a new incision, the operator endeavoured to continue the division of the aponeurosis by introducing the bistoury in a transverse direction, deeply beneath the skin of the side of the cubital border of the hand, in order to liberate the little finger, but in vain. He then made a transverse incision opposite the articulation of the first and of the second phalanx of the little finger, and thus detached its extremity from the palm of the hand, but the rest of the finger remained firmly flexed. The skin and

aponeurosis was next divided by an incision opposite the articulation of the phalanx with the metacarpal bone; this produced a partial but not a complete restoration of the flexibility of the part. A last transverse incision was then made opposite the middle of the first phalanx itself, and this must have divided the insertion of the palmar aponeurosis, as the little finger could immediately be extended with the greatest facility. The incisions, which bled but little, were dressed with dry charpie, and the little and ring fingers were extended by means of an apparatus fixed to the back of the hand. The day of the operation and the following night were passed with little or no pain. During the next day the hand became slightly swollen, owing to the clumsiness of the instrument. Another was then substituted, consisting of a half-cylinder of pasteboard, terminated by four metal rods, which could be lengthened or shortened at pleasure, and which were surmounted with a kind of thimbles to embrace the ends of the fingers. The patient found at first some relief, but in the evening the pain and swelling returned. He was ordered to have his hand sprinkled constantly with a solution of acetate of lead in cold water, without removing the apparatus. This diminished the pain and swelling. Without giving the daily report of the progress of the case, it will be sufficient to state, that suppuration became established, and the wounds, at the end of about twenty days were completely cicatrized. The machine was used for more than a month, and when it was removed the fingers were found, with the exception of the temporary stiffness, occasioned by continual extension, to be so flexible as to allow the patient to bend them easily. A month after this M. L. only employed the machine during the night, and the articulations were becoming so supple as to show that the tendons remained healthy, and that in process of time the motions of the fingers would be completely re-established.

M. Dupuytren repeated this operation Dec. 5th, on a coachman, aged 40, who applied to him for the relief of the deformity which existed in both hands. When he came to the hospital his fingers were so bent that they were not more than an inch and half distant from the palm of the hand, the skin of the palm forming folds whose concavity was turned towards the fingers. On extending the phalanges, the cords passing from the fingers to the palm were very evident. The patient being seated, M. Dupuytren held the right hand, and made with a bistoury two semi-circular incisions, the one at the base of the ring finger, in order to divide the two digital prolongations of the palmar aponeurosis which were attached to this finger, and the other an inch and a quarter beneath the former in the palm of the hand, to make a second section of this digital prolongation, and to separate it by its base, from the body of the palmar aponeurosis. The ring finger was immediately restored to its normal position. The patient becoming very weak, the operation on the left hand was deferred until another day. The hand was dressed in the same manner as was adopted in the preceding case, and the result will most probably be similar.

Although three facts are not sufficient to establish a general doctrine, yet, by awakening the attention of surgeons, they may be of considerable benefit to science, by multiplying the observations on the causes, signs, effects, and treatment of this disease, and chiefly in the operation which has here been proposed and adopted. In conclusion, M Dupytren recommends caution, lest a false application of these observations may be made, by sup-

posing that all retractions of the fingers resemble these, and require the same operation. In a subsequent clinical lecture (ART. XVII.) this subject is resumed, as there were several cases in the hospital, illustrating the different species of retraction of the finger.

1*st Case.* A boy, aged 14, admitted under M. Sanson for a white swelling of the ankle-joint; has also retraction of the little finger of the left hand, of very long standing. There is not the least motion in the articulations of the phalanges with each other, but the junction of the first with the metacarpal bone is perfectly free; on bending the finger backwards there is no palmar cord; hence the disease is in the articulations of the phalanges.

2*d Case.* In this individual the two last fingers are constantly bent towards the palm of the hand, but they are easily extended, and there is no cord. This is owing to a sabre wound on the back of the hand having divided the two extensor tendons. A contused wound may produce a similar effect.

3*d Case.* In this patient the little finger is curved into an arc of a circle, the articulations are unaffected, there is no palmar cord, and the tendons of the flexors and extensors are sound. The retraction depends on a disease of the skin which has destroyed its palmar surface to a great extent: this was owing to a contused wound from the wheel of a carriage. The wound was cicatrized by placing the edges in contact, not by the production of a new cutaneous tissue;—a narrow cicatrix and retraction of the finger was the consequence.

Burns of the palmar surface improperly treated by neglecting to extend the fingers, is a frequent cause of their contraction. But in these cases there are no prominent hard cords extending from the fingers to the palm. Retraction from deformity of the articular surfaces of the phalanges, occasioned by certain occupations, is not uncommon. Women who constantly knit, and who are consequently obliged to retain the little finger separate from the others, and strongly bent during a very long time, in order to support the thread they employ, have often a retraction of this finger from deformity of the corresponding articular surfaces of the first and second and third phalanges. This was very common in France, and is still so in Germany, where the women of Berlin and Dresden knit whilst walking.

4*th Case.* A strong young woman, a lace-maker, has the four last fingers of each hand retracted towards the palm, forming the fourth of a circle; the articulations of the phalanges with the metacarpal bones are free. The fingers may be bent backwards; this shows no cord. The second phalanges however cannot be bent backwards on the first, owing to a deformity of their articular surfaces, produced by the occupation of the patient.

5*th Case.* This patient is a tailor; such persons are obliged to keep the fingers of their right hand constantly bent. In this instance it is impossible to straighten the ring finger, and such attempts produce pain, but nothing indicates disease in the palmer surface. The retraction depends on the presence of ganglion, or accidental serous kyst, at the articulation of the first with the second phalanx. Wounds of the flexor tendons may be mistaken for this reaction, but the prominence of the cord formed by the aponeurosis is much more superficial, nor does it yield to extension; whilst in extending the finger contracted by a divided flexor tendon, the tendon of the palmaris brevis is depressed, and the prominence almost entirely disappears.

6*th Case.* The middle finger of this patient is curved into half an arc of

a circle; from its pulp a cicatrix passes to its border, in which is felt a round and hard cord, which is the tendon. This displacement and retraction was produced by the surgeon having opened the sheath of the tendon, in making an incision for a whitloe.

7th Case. This patient has the palmar surface of the third phalanx strongly bent on the second, of the indicator finger of the right hand. There is complete anchylosis of the articulation. A wound on the dorsal surface had penetrated the joint, and inflammation, with its usual consequences, followed.

9th Case. A ball from a pistol passed through the fore-arm of this patient, without fracturing the bones. The cubital nerve was divided, and paralysis of the internal side of the arm, and two last fingers, followed. M. Dupuytren enlarged the wound immediately, simple dressings were applied, and the wound cicatrized in the course of a month; but the paralysis remained, as well as retraction of the two fingers. The articulations are free, but, on our endeavouring to extend the fingers, there is much resistance and pain at the cicatrix. This is produced by the loss of substance which the flexor muscles have sustained.

This lecture which is especially valuable, from its clearly proving the nature of an affection hitherto unsuspected, illustrates the clear and methodical manner in which M. Dupuytren arranges his cases for the elucidation of his subject.

Art. II.—On Cataract.

In following the plan we have laid out, of only placing before our readers the peculiar views of M. Dupuytren, or striking and instructive facts, illustrating modes of treatment which are commonly adopted, we shall pass over the descriptions of the various forms of cataract, which are perhaps better described, and, we cannot help thinking, more accurately known, by our own writers on ophthalmic surgery.

Many facts observed at the Hôtel Dieu, have induced M. Dupuytren to admit an hereditary disposition to cataract. The following illustration tends to prove the disposition to the disease, as well as the success of the operator in removing it.

An elderly woman, accompanied by part of her family, presented herself at the hospital. She stated that, when between 60 and 70 years of age, her sight became impaired; 18 months afterwards, both her crystalline lenses were entirely opaque. M. Dupuytren depressed one, and the operation was so completely successful, that at the age of 80 she saw well. The sight of her daughter began to be impaired at 28 years of age; in a short time she could only distinguish day from night, but the pupils were moveable and the eyes healthy. At the age of 30, M. Dupuytren performed a similar operation to that to which her mother submitted, and with the same success. The daughter of this woman, aged 17, had also two cataracts, for which the Baron successfully operated; and, at the same time, the grandmother brought to the Hôtel Dieu two of her other grandchildren, in the elder of whom the crystalline lenses had begun to become opaque, whilst the younger saw objects as if through a cloud, the precursory symptom of the family disease.

M. Dupuytren has operated on a large number of congenital cataracts,

but he has never seen those surprising effects of which so many authors have spoken, nor has he heard, from the lips of the patients whose sight he has restored, those marvellous reasonings on the distance, form, and colour of objects, the recital of which has produced so many metaphysical speculations. He has, on the contrary, almost always remarked, that those blind from cataract, which existed either from birth or during many years, so that they were accustomed to the exercise of but four senses, were generally embarrassed by the acquisition of the fifth; they experienced difficulty in combining the action of it with the others, and they showed frequently so great an unwillingness to employ it, that he has been obliged several times to deprive them of one, or even two of their senses, in order to force them to use that of sight. He thus stopped up the ears of a child, who guided itself either by sound, or by the impressions it received by its hands, which it carried before its body constantly, like tentacula. M. Dupuytren prefers depression of a cataract to extraction, and has rarely recourse to this operation, unless the alteration which the lens or the membrane has undergone is such as to render absorption impossible. In surgery, as in medicine, the same methods of treatment cannot be employed, in every case, to compass the same end, and no precepts are more irrational than those which recommend one operation in all cases. Relatively to age, and the degree of energy of the absorbent system, it would appear that it is better to operate on children by depression, and on old people by extraction. In children, the functions of life are carried on with all their energy, the actions of composition, and of decomposition are executed with astonishing rapidity, the crystalline is always softer than at an advanced age, and, when placed under the necessary conditions, is instantly absorbed; in the aged, on the contrary, the reverse of this is the case—absorption has lost great part of its energy, exhalation predominates, whilst the lens is harder, and absorbed with greater difficulty. M. Dupuytren has found crystalline lenses perfectly unabsorbed, although depressed for upwards of two years, in old people who had died of other diseases. But there are other conditions which favour the operation of depression in both ages; children are rarely docile, or can distinguish between that which is hurtful or advantageous to them, and their consequent resistance to an operation on the eyes renders extraction difficult, and may produce an evacuation of the vitreous humour. In old people, the eye may be deeply imbedded in the orbit, or the borders of this cavity may be very prominent, or the globe of the eye be of small size, and in such cases extraction is particularly difficult. Individuals are seen, of all ages, in whom, owing to an aberration in the motions, or in the conformation or relations of the organ, this operation is one of great difficulty; in others, the eye is agitated by rapid and convulsive motions; finally, it is a constant observation, that when an individual is deprived of sight for some time, he loses, with the habit of seeing, the habit of looking, the motions of the globe no longer obey his will, and the difficulties of extraction are consequently increased. Such are some of the considerations which induce M. Dupuytren to prefer the operation of depression. He regards the operation of absorption, or that of breaking up the lens, as a modification of that of depression, and that one or the other is to be employed, according to circumstances, that whilst a hard cataract cannot be broken up, a soft one cannot be depressed. The needle which M. Dupuytren uses combines the properties of

the old lance-shaped needle with the needle of Scarpa. Its blade is narrow, elongated, and bent at the extremity, its point is very acute, and both its edges sharply cutting, the size of its shaft is exactly proportioned to that of its blade, so that it is equally formed for penetrating, dividing, seizing, and displacing, readily yielding to the hand, and moving without effort, or without allowing the aqueous humour to escape. For extraction, M. Dupuytren uses Richter's knife. When the crystalline is depressed, M. Dupuytren examines carefully whether the capsule is perfectly black and detached; if some fragments still remain, he carries them into the anterior chamber. If the cataract is membranous, either partial or complete, with or without opacity of the lens, the operation is conducted in the same manner. The milky cataract requires to be broken up. If the softening is so complete, that the moment the capsule is torn a thick fluid fills the anterior chamber, so as to obscure the remaining steps of the operation, M. Dupuytren waits until absorption renders the eye again clear.

About 23 years ago, M. Dupuytren was led to introduce the needle through the cornea to depress a cataract, as his patient was a young girl whose eyes he could not fix, owing to a convulsive action of their muscles. He was not aware that this had been attempted previously; subsequently, the favourable mode in which the Germans spoke of this operation, or keratonyxis, induced him to put it to the test of experience. The consequences at which he arrived are, 1st, That it is not more easy than the operation of piercing the sclerotic. 2d, That the situation of the hand of the operator, and his needle, being between his eye and his patient's, prevents him from following the motion of his instrument or of the cataract with facility, especially when, in depressing it, the hand as well as the handle of the needle requires elevation. 3d, That the pupillary margin impedes the motion of the needle, both in depression, and in detaching the portions of capsule which adhere so often to the ciliary processes. 4th, That keratonyxis neither prevents the nervous nor inflammatory consequences which result occasionally from the posterior operation, and which have been so much dwelt on by the Germans. 5th, That iritis is a more frequent consequence, owing to the greater fatigue which the iris undergoes in this operation. 6th, That it is sometimes followed by an opaque cicatrix—in some instances, a blemish, in others, an obstacle to vision. 7th, finally, That the results of both are very similar. A table is given of the result of 21 operations by keratonyxis, 17 of which were successful; this does not differ much from the results of the posterior operation. M. Dupuytren by no means concludes that keratonyxis should be abandoned, but regards it as a new resource, preferable, in some few cases, to the ordinary method of depression. The circumstances in which it would be indicated are, prominence of the orbit, narrowness of the opening of the eyelids, smallness and depression of the globe, excessive mobility of this organ, and especially when caused by those convulsive motions to which children, affected with congenital cataract, and adults with central membranous cataract, are peculiarly liable. The following are the general principles on which M. Dupuytren conducts the treatment of his patients, before, during, and after the operation.

Previously to the operation, particular attention is paid to the state of the atmosphere and the prevailing diseases; thus, if ophthalmias are extremely common, the operation is delayed. The general health of the patient is to

be carefully examined; if any rheumatic affection is present, an operation is often followed by severe inflammation; it is advisable, in the first place, to attack the rheumatism, and if it is decided to operate when some vague pains are still present, a blister should be applied to a part at some distance from the head. If there is pulmonary catarrh, the paroxysms of coughing not only produce a greater flow of blood to the head, but they may cause the cataract to rise into its old situation. If the stomach is affected, vomiting may act in the same mechanical manner, whilst, from the sympathy which exists between the stomach and the eyes, various morbid complications may be expected. Diarrhœa and constipation contra-indicate the operation; it should not be performed during an attack of piles; and, if practised after the disease has ceased, the slightest symptoms of sanguineous congestions of the head should be combated by leeches to the anus. Even when there exists no complication, M. Dupuytren never neglects preparatory means, which are, perhaps, as important as manual dexterity. These consist in the prescription of baths, emollient lavements, and drinks, general or local bleeding, according to the circumstances, and the constitution of the patient; from time to time, small doses of castor oil, and, if the eye is very mobile, and is likely to be irritated by the approach of instruments, it is of service to habituate it beforehand to the operation, by simulating the various movements that will be required. More particularly when M. Dupuytren performs keratonyxis, he dilates the pupil, by dropping between the lids, on the preceding evening, some drops of a solution of extr. belladonnæ, or lauro-cerasus. M. Dupuytren always performs the operation whilst the patient is lying in bed, with his head elevated; this maintains the eye, as well as the whole body, in a perfect state of rest—it counteracts the tendency to syncope which sometimes occurs, and it prevents the motion of the patient from causing the cataract to remount into its former situation. He attaches considerable importance to this precaution. Subsequently to the operation, low diet and absolute repose are enjoined. If the patient is sanguineous, and there is a tendency to congestion about the head, he bleeds, &c. If there is a disposition to vomiting, which is almost always the case in children, he gives an anodyne. If there is much agitation, or nervous symptoms, lavements, with some drops of laudanum, are very useful. In those cases where both eyes are affected, M. Dupuytren never operates on more than one at the same time, the reasons of which are very obvious. It is by no means an infrequent occurrence, that the cataract remounts, and this is the most serious objection to the operation. Under such circumstances, it is better to depress it again, as, if left to itself, it is absorbed very slowly. In some subjects, there is so great a tendency to this rising of the lens, that M. Dupuytren has been obliged to repeat the operation four times at an interval of some months. Part of a cataract, or many portions of it, may rise in the same manner, requiring, in some instances, mechanical removal from the axis of vision. The lens, when diseased, appears more susceptible of displacement than before it had lost its transparence; sometimes it is wholly displaced, passing into the anterior or posterior chambers—sometimes, remaining only partially fixed, it floats about, obstructing incompletely the pupillary opening. By such displacements, patients with cataract have suddenly recovered their sight after a brisk movement, or a blow in the head or eye. Some individuals have possessed the power of making

the lens pass from one chamber of the eye to the other at will. The following curious case, extracted from the work of Demours on the diseases of the eyes, proves this.

The patient, in the presence of the author and two other surgeons, caused the opaque lens to pass into the anterior chamber, and afterwards to return behind the iris. The cataract was formed at six years of age, and towards puberty, gradually descended behind the iris. At 18 years of age it was not to be seen, but was buried in the disorganized vitreous humour. At the age of 19, during an active military service, this body passed before the iris, and produced such constant pain, that the young man obtained his discharge. M. Demours was consulted and recommended extraction, but as the patient wished to avoid the operation, he advised him to dilate the pupil with belladonna, to remain lying on his back for 24 hours, and from time to time to place his head with the vertex lower than the neck, so as to favour the return of the lens behind the iris. When the lens was no longer visible, he ordered a few drops of vinegar to be dropped into the eye, to excite inflammation and consequent contraction of the pupil. This was followed with the success he expected. For 8½ years the patient was free from this singular accident; but during the last two years it has returned three or four times a month. If inadvertently he suddenly depresses his head, the lens passes before the iris; he then is in pain, and incapable of occupation, until, by lying on the ground, his chin elevated, and the summit of his head depressed, he forces it back by strongly rubbing the globe with the upper eyelid. M. Dupuytren enters at some length into the complications of cataract with adhesions of the iris, and permanent contraction of the pupil, and recommends the employment of belladonna when the effusion of lymph is recent, but when it is organized, he directs the adhesions to be broken down with the needle previously to depressing the lens.

In displacements of the crystalline lens, M. Dupuytren recommends, as a general rule, that no operation should be attempted unless the presence of the foreign body causes inflammation. The following case shows the adaption of a new operation to peculiar circumstances, and illustrates not only the skill of the operator, but the resources of a first-rate surgeon.

A soldier, aged 34, was received into the Hôtel Dieu, the 2d Nov. 1819, having the anterior chamber of the left eye completely filled with the pearly opaque lens, which had passed through the iris whilst the patient was strongly depressing his head. The eye was red, inflamed, painful, and watering, with intense head-ache. Bleeding from the arm, a warm-bath, and a purgative, relieved these symptoms, and two days after the following operation was performed. The patient being placed in bed, with his head elevated by pillows, the operator plunged the needle into the selerotica, about two lines from its junction with the cornea, passed it from the posterior into the anterior chamber, hooked the crystalline lens, withdrew it into the posterior chamber, and depressed it in the vitreous humour. The patient could immediately see the hand of the surgeon, and distinguish his assistants. The results were most successful, the patient left the hospital six days after with a perfectly clear pupil, seeing well, and experiencing no pain.

Such are M. Dupuytren's principal ideas on cataract. We have given them perhaps at greater length than our space will well permit, considering

the value of the remaining matter, as we were the more anxious to make our readers acquainted with his views on this subject, as they differ in some points from those of our modern ophthalmic surgeons. By them extraction is generally performed, and, as our eye institutions testify, with great success; but the difficulty of the operation, and the experience required before the surgeon becomes a sure and successful operator, is allowed by all.

Pope's apothegm on different forms of government, that

> Whate'er is best administered, is best,

may be applied with some restrictions to varieties in surgical operations. No one who has seen an experienced surgeon pass his knife steadily through the cornea, and extract the lens without injuring any other part of the organ, will deny that such an operation so performed, is more workman-like and physiologically correct than that of thrusting a needle through the sclerotic, choroid, and retina, and breaking up a considerable portion of the vitreous humour by forcing the opaque lens into it; or that it possesses many advantages over the slower method of passing the needle through the cornea, and subjecting the lens to the tedious process of absorption, which, indeed, in many instances, is not available. But it should be recollected that this dexterity was not acquired except by such a share of practice as falls to the lot of comparatively few, and that there is some truth in the strong, but exaggerated observation of Wenzel, that a hatful of eyes must be lost before expertness is obtained in extraction. This should reconcile the provincial surgeon under whose care the poor necessarily fall, who are not unfrequently disabled by this affection, and to whom vision is almost necessary to existence, to a more simple mode of proceeding, which, although it offers many disadvantages, possesses the superiority of being more easy of execution. We are very far from agreeing with M. Dupuytren as to the peculiar advantages of the posterior over the anterior operation; we have stated his arguments, many of which, we think, any thing but satisfactory, at length; but we have not now space to discuss them. To those who may wish to see the principal advantages of the anterior operation, we would recommend the perusal of an excellent and practical paper published by Dr. Jacob, in the 4th volume of the Dublin Hospital Reports. M. Dupuytren has unaccountably passed over without observation the unfavourable nature of those cases which are complicated with adhesions and consequent contractions of the pupil. He gives directions for breaking them down previously to depression; but how often are they complicated with a disorganized state of the retina, and how rarely is the patient benefitted by the removal of the opaque lens.

ART. III.—ON INFLAMMATORY, SCROPHULOUS, AND VENEREAL ENLARGEMENTS OF THE TESTICLE.

This article is devoted to the description of these three affections in order to prevent the unnecessary extirpation of the organ, a practice but too common in Paris. One surgeon indeed of great reputation is said to remove every testicle which is the seat of the chronic enlargement. In this country more caution is observed, and these glands are rarely extirpated, unless the enlargement is of a well-marked malignant character, before every other means of cure have been tried. In performing the operation, M. Dupuytren

makes a most extensive incision from the inguinal ring, to below the inferior extremity of the tumour. He transfixes the spermatic cord with a tenaculum previously to dividing it below that instrument; he applies two or three points of suture to the divided scrotum. Inflammation of the body of the testicle is attended with much greater enlargement, and is more easily cured, than when the epididymis is affected. The structure of the parts explains this. In such cases M. Dupuytren employs at first a vigorous antiphlogistic treatment, such as repeated venesection and leeching, baths, low diet; by these means the swelling is dissipated generally in eight or ten days. If the enlargement commences in the chronic form, or if it passes from the acute to the chronic stage, he prescribes resolutives, such as diachylon, or mercurial plasters, together with derivatives, such as purgatives, every two or three days; for this purpose he uses calomel, or castor oil, sulphate of soda, &c. The scrophulous enlargement of the testicle commences frequently in exactly the same manner as the simple inflammatory; it does not, however, yield to the ordinary means, and is prolonged indefinitely; it exists often with other affections of the same nature in a scrophulous habit. The tubercular degeneration affects generally the fibro-cellular structure surrounding the epididymis, as well as the substance of the gland. The tubercles increase slowly, and may remain three or four years; these are diagnostic marks. The scrophulous enlargement is less hard than the scirrhous and harder than the inflammatory; it is without heat and redness, giving a sense of weight, and "engourdissement;" the subcutaneous cellular tissue is generally free. The tumour is commonly unequal and irregular, whilst in schirrus it is globular, and the epididymis knotty. As the disease progresses, parts of the testicle become softened; so that when touched they feel soft: these are gradually elevated and ulcerate, discharging a serous pus, and a cheesy scrophulous matter. This state may remain for years. If medicine fails, the testicle becomes soft, and fungoid, and extirpation alone can cure the disease; that is, if it is confined to this organ.

Treatment. The inflammatory symptoms having been subdued, constitutional remedies should be adopted. The residence of the patient should be in a dry and elevated place, exposed to the South. He should be covered with flannel from head to foot, and use dry frictions; he should take exercise in the open air, and as much as possible in the sun; his diet should be strengthening, consisting of brown meats, game, and antiscorbutic vegetables, avoiding mineral and vegetable acids, sour and especially farinaceous vegetables. Iodine may be employed in doses of an eight to half a grain in mint water, or frictions with hydriodate of potash. Salt, sulphur, or ioduretted douche baths may be used, particularly when there are fistulous sores. If, notwithstanding these remedies, the disease proceeds, and the testicle becomes soft, fungoid, and full of scrophulous deposits, or if it threatens to pass into scirrhus, which is rare, extirpation should be employed without hesitation, or the patient is exposed to some fatal organic disease.

Patients constantly present themselves with enlargement of the testicle, for which they can assign no cause; they have received no blow, nor other external injury. If the tumor is elongated and cylindrical, if it causes no lancinating pains when touched, if the patient has had former venereal

affections, if he states that, after being six, twelve, or eighteen months affected, the testicle has returned to its normal state, and the other has enlarged, there are strong presumptions in favour of the veneral nature of the disease; the enlargement shifting from one testicle to the other is a pathognomonic symptom. In cases where the disease returns after castration, if a cancerous testicle has been removed, the cord almost always becomes affected; but, in syphilitic enlargement, the remaining testicle is the seat of the affection. When there are other syphilitic symptoms, such as eruptions, nodes, &c. the diagnosis is more clear. If there is doubt, it is better to adopt a syphilitic treatment during six weeks or two months, than risk an operation. M. Dupuytren's antisyphilitic treatment consists of the compound decoction of sarsaparilla and the following pills—

℞. Hydrargyri oxymur . . . . gr. $\frac{1}{8}$ to $\frac{1}{2}$
Opii . . . . . gr. ss.
Extr. Guaici . . . . . gr. ij. M. Fiat pilula, ter quotidie sumenda.

ART. IV.—TRAUMATIC EMPHYSEMA.

Two cases of emphysema, from fracture of the ribs, are detailed; one of these was mild—the other severe and fatal; they very fairly illustrate the subject, and introduce some useful remarks, but, as there is nothing novel in the article, we shall pass on to a case of traumatic emphysema of the eyelids.

A workman, aged 25, whilst excavating, had the right anterior part of his head, his neck and chest covered by the falling-in of the earth. On being extricated, he merely felt slight pain at the root of the nose, to which he paid little attention, and continued his work. About a quarter of an hour afterwards, having endeavoured to blow his nose, the eyelids became suddenly and considerably tumefied, so that the eye was entirely covered. On touching the part, there was evident crepitation. M. Dupuytren considered that the external violence had ruptured the pars plana of the ethmoid bone, or the os unguis, and that, through this opening, the air passed from the nasal fossæ into the internal structure of the eyelids. The reason why the emphysema did not appear immediately after the accident, but not until the man had endeavoured to blow his nose, was, probably, that the fracture of the bone was unattended, at first, with destruction of the soft parts which line it, and which formed an obstacle to the transmission of air; but that subsequently, the patient having, by his efforts to blow his nose, driven a strong current of air against these parts, they had given way, and established a communication between the nasal fossæ and the eyelids. Bleeding from the nose is a usual symptom in such cases, but in this it did not occur. Venesection was employed, and wet compresses were applied to the base of the orbit. M. Dupuytren recommended the patient to avoid blowing his nose, coughing, or any other effort which could renew the passage of the air through the presumed opening. On the third day the crepitation had diminished, and, on the fifth, the eyelids were in a natural state.

Emphysema of the Temporal Region. A man fell on the anterior part of the forehead; some time after a large tumour formed in the temporal

region, the nature of which appeared doubtful to several persons. M. Dupuytren examined, and, by slightly compressing it, caused it to move towards the anterior part of the forehead, and, finally, to disappear. It was owing to the passage of the air from a fracture of the frontal sinus into the cellular tissue.

In the diagnosis of cases of this kind, besides the emphysematous crepitation, it is observed that the swelling is increased when the patient blows his nose; and, if he is in a state of insensibility, the same effect is produced by pinching his nose, so as to prevent the expired air from passing through it. The swelling always forms with extreme rapidity, owing to the laxity of the cellular tissue.

Art. V.—On Fistulous Sinuses and Symptomatic Abscesses.

A woman was admitted into the Hôtel Dieu on account of an abscess on the inner and upper part of the thigh. There was considerable curvature of the spine, owing to caries of the bodies of some of the vertebræ. A smaller tumour existed on the other thigh. It was clear that these abscesses communicated, by two fistulous sinuses, with the diseased bone. Moxas were applied to the sides of the spine corresponding with the diseased vertebræ, and in a month the symptoms were ameliorated, when she was attacked, owing to a change of temperature, or perhaps to an absorption of pus, with pleuro-pneumonia, which proved fatal.

On examining the body, 36 hours after death, the following appearances were observed, which we shall transcribe, as they illustrate M. Dupuytren's remarks on the formation of these fistulæ. The body of the 11th dorsal vertebra was destroyed by caries; the vertebral canal was not contracted, neither had the spinal cord lost its natural appearance. The bodies of the 10th and 12th dorsal vertebræ were superficially carious and softened. In front of the 11th dorsal vertebra, the condensed and hypertrophied cellular tissue and periosteum formed a pouch, whose walls were thick and resisting, having a grey internal surface, in contact with pus and purulent pseudo-membranes; it adhered by strong bands to the bodies of the diseased vertebræ. From this pouch, two fistulæ passed downwards within the sheath of the psoas muscles, which were pale and atrophied. The right was the larger, and would admit many fingers; it contained unhealthy serous pus—it was lined by thick pseudo-membranes, beneath which was a smooth, rosy, and apparently mucous membrane. It was dilated above the crural arch, contracted under it, and again enlarged, at the upper part of the thigh, into a large sac, containing the small trochanter, with new bony depositions; this communicated with the fistular opening of the skin. The left fistular tract followed a similar course, was lined by a recent mucous membrane, but was not dilated; beneath this membrane, a whitish, resisting, fibrous, tissue, formed almost the whole of the canal, and was evidently produced by the cellular tissue of the parts through which the pus made its way. This sinus was evidently undergoing a cure, as it was in some parts capillary.

After bringing forward this case, M. Dupuytren remarked, that those channels which establish a communication between a carious bone and any other part of the body, those which pass from the urethra to the perinæum, from Stenon's duct to any part of the face, or between the air-passages and

the external surface, all present the same nature and organization. They are formed at the expense of the cellular tissue of the parts through which the pus passes. The fibrous, nervous, osseous, or mucous tissues may thus furnish cellular membrane, in which the granulations appear and become united together; their canals, constantly traversed by their products, speedily assume a mucous character. In caries of the spine, the fistulous sinuses are thus formed. Caries commencing, the pus remains for a longer or a shorter time in the diseased bone, or in the parts which surround it, particularly in the cellular tissue; a cyst is there formed, where the matter accumlates. The quantity of pus increasing, and gravitating, the cyst becomes elongated, and directed either to one or both sides of the spine; the pus then advances, by driving before it the inferior extremity of the cyst; if it meets with an obstacle, it forms a dilatation; it contracts when pressed between the parts it may pass through, and again dilates when no such impediment exists. Having arrived at the skin, it forms a sinus beneath it of greater or less length, and a tumour is produced, which becomes an abscess. This is the congestive abscess of authors, (but M. Dupuytren prefers the term symptomatic,) and constitutes a dangerous and generally fatal disease. By active counter-irritation and constitutional remedies, the caries may be often arrested and cured, but the abscess may remain many years without any injury; in some cases it is gradually absorbed; in others, after a certain time, the skin inflames and ulcerates, and the pus is discharged without being again renewed. In some circumstances, the pus has been converted into a substance which chemistry has proved to be adipocire, as in the following case.

Many years ago, M. Dupuytren attended a young merchant, who was affected with symptomatic abscess, arising from caries of the spine, attended with considerable curvature; the caries yielded to the repeated application of moxas, cauteries, &c.; the abscess did not disappear, but its size was slightly diminished. Five or six years afterwards, the patient died of a pleuro-pneumonia. On examination, the caries was found cured, the deformity alone remained; the abscess was converted into a fatty, soft, unctuous matter, presenting all the physical and chemical characters of adipocire, the sinus extending from the diseased bone to the abscess was contracted, and, in some parts, obstructed; its walls still contained this peculiar matter.

M. Dupuytren considers it dangerous to open symptomatic abscesses, from caries of the spine which has yielded to the curative means, as it exposes the patient to a return of the disease. He leaves these abscesses, under all circumstances, to the efforts of Nature. The analogy in structure between these artificial canals, and natural mucous canals, was exemplified in the examination of the first case. There was a false membrane, analogous to that in inflammation of the œsophagus; on scraping this off, the subjacent membrane was red, like natural mucous membranes—it was, like them, soft and villous, the villi being easily seen with a lens, less, certainly, than in a natural state, but still well marked. On the exterior was a fibro-cellular membrane, similar to that which surrounds mucous membranes. In some instances, Nature cures these artificial sinuses; the mucous canal, ceasing to be traversed by a fluid, contracts, its sides approach each other, unite, and form a fibro-cellular cord, which, in the course of six or twelve months, wholly or partially disappears. This has been fully proved by pathological

examinations. The reason that the natural mucous canals are obliterated with such difficulty and so rarely, whilst the contrary is the case with the artificial, appears to arise from the abundant apparatus for secretion with which the former are furnished; for, as in the square inch, the natural canals have 100 villi—the artificial have not above 5 or 6. From these considerations, the necessity will be seen to oppose, as soon as possible, the organization of these fistulæ, and to hasten to re-establish the course of the secretion by all suitable remedies. But when this object cannot be obtained, such means become unsuitable, and the parts themselves must be removed. If the canal is straight, and the actual cautery can be applied to its whole internal surface, it may be useful. In other cases, injections of nitrate of silver, or nitric acid in a large quantity of water, may be carefully thrown in. M. Dupuytren employs a solution of 30 grains, or a drachm, of nitrate of silver in a pint of distilled water.

Art. VI.—Prolapsus of the Rectum.

Prolapsus of the rectum is one, if not of the most serious, at least one of the most inconvenient diseases; in general, it occurs in those who are the subjects of it whenever they go to stool, or even when they remain standing, and it appears to co-exist with a weak, soft, lymphatic, and hæmorrhoidal constitution. Reduction is only a palliative remedy: cold baths have been recommended as curative means, but they require much time and perseverance, so that they rarely fulfil the intention. Astringents, compression with sponge and a T bandage, suppositories, &c. have been of use in the prolapsus ani of children, but have failed in adults and the aged. Excision of a portion of the mucous membrane, cauterization, &c. are not only excessively painful, but dangerous. The inefficacy of these means has induced M. Dupuytren to practise a new mode of treatment, and, previously to explaining it, a short anatomical description of the parts will not be out of place.—The skin surrounding the margin of the anus is thinner, and differs in colour from that covering other parts of the body; it contains numerous mucous crypts, which secrete an oily matter. This skin is thrown into folds, separated by furrows, which converge from the margin towards the centre of the anus; these folds are implicated in the anus itself, and are more numerous and prominent in proportion as it is closely contracted; they disappear when it is dilated, and it is readily conceived that their use is to facilitate the dilatation of the anus, and to favour the expulsion of the fæces. Above the skin is a layer of fibro-cellular substance—above that the external sphincter, and above that the internal sphincter.

The operation which M. Dupuytren has proposed is thus performed:—The patient lies on the belly, the upper part of the trunk and the head low, the pelvis, on the contrary, much elevated by pillows; the thighs and buttocks are separated, to expose fully the margin of the anus and the anus itself. The operator, holding in his left hand a pair of dissecting forceps, with large blades, in order to give less pain, seizes successively, from right to left, and even from before and behind, two, three, four, five, or six of these diverging folds; with a pair of curved scissors, held flat with the right hand, he cuts off each fold as soon as it is raised: the excision should be prolonged as far as, and even within, the anus, as the action extends even

above the opening; if the relaxation is considerable the incision may be carried to half an inch in length, but in general a few lines is sufficient. If the relaxation is moderate, it is sufficient to remove two or three folds on each side; if it is very great, a greater number must be cut off. This operation gives but little pain, and no inconvenience. There is no hæmorrhage, as the cutaneous vessels alone pour out blood. The cicatrization which causes at the same time the edges of the wounds to approach each other, and the formation of an accidental tissue, evidently contracts the anus. A new skin intimately adhering to the parts beneath has been substituted for the former skin, whose adhesions were remarkably lax. The inflammation which follows, and is propagated to the submucous cellular tissue of the rectum, tends to unite the mucous and muscular coats more intimately. No dressing is necessary. During the first days after the operation the patients do not ordinarily go to stool, but the inflammation soon subsides, the cicatrization is complete in a few days, the opening is diminished, and the cure perfect. It is ten years since M. Dupuytren first performed this operation, and since that time he has employed it in a great number of cases, and always with the same success;—the disease has never returned, unless from the indocility of a child rendering the operation imperfect.

Case. A young woman, of good constitution, subject to prolapsus ani, entered the Hôtel Dieu in May, 1830. She knew no cause to which the disease might be attributed. Whilst in the hospital she was not subject to piles, but there was this peculiarity about the prolapsus of the rectum, that it was only troublesome during some days in each month, whenever the patient went to stool. The extreme pain she suffered whilst the parts were protruded made her wish for an operation. The patient being properly placed, M. Dupuytren raised with his dissecting forceps a fold of the margin of the anus, and removed it, prolonging the incision as high as possible into the rectum. Four folds were thus removed from before, behind, and the two sides. The pain was but moderate, and there was no hæmorrhage; no dressing was applied, and on the patient's going to stool some days after, the gut did not descend. In a fortnight the wounds were healed, and the patient was discharged. A very similar case is given in which three folds were removed; the patient was a child three years of age.

Although he, and subsequent writers, have given cases in which prolapsus ani of the rectum was cured by removal of a portion of the skin around the anus, yet these cases have been complicated with hæmorrhoids, for which alone the operation was attempted. To M. Dupuytren must be given the full credit of this ingenious operation, which still farther differs from those which have been previously attempted, from its being peculiarly adapted to those cases which are *not* complicated with piles.

ART. VII.—ON NERVOUS OR TRAUMATIC DELIRIUM.

The details of seven cases of what M. Dupuytren calls nervous delirium, and which has usually been named "Traumatic" from its cause, are given. In three of these the delirium followed fractures of bones, in two it was subsequent to self-inflicted wounds, in one case it followed the removal of a sarcocele, and in the last it was preceded by an operation for the removal of cataract. Only one of these terminated fatally. At the conclusion of the

article M. Dupuytren has summed up the distinguishing symptoms. It commences generally in a sudden and unexpected manner in individuals often in a very favourable condition, by gestures, disordered movements, incoherent questions, and a singular confusion of ideas respecting places, persons, and things. Completely deprived of rest, they appear under the influence of one idea, more or less fixed, but almost always connected with their profession, their passions, their tastes, their age or sex. They are in constant motion. The upper parts of the body are covered with an abundant perspiration; the eyes become brilliant and injected, the face animated and red, and they utter menacing words and frightful vociferations with extraordinary loquacity. Their insensibility to pain is often so great that patients with comminuted fractures of the lower extremities have been known to tear off the dressings, and walk about on the maimed limbs without any expression of suffering; others, with fractured ribs, have agitated themselves and sung without the slightest uneasiness; and some, after being operated on for hernia, have introduced their fingers into the wound, and amused themselves by drawing out their intestines as coolly as if they were performing the manœuvre on a dead body. Notwithstanding the severity of these symptoms, the pulse is tranquil and calm, experiencing no other change than that produced by the disordered movements of the body; there is no fever, the excrementitious functions are executed with their usual regularity, but the appetite is gone, and at the end of two, four, or five days, the disease terminates by death, or more frequently favourably. The favourable change takes place suddenly, and without an apparent crisis. Exhausted with fatigue, the patient falls into a profound and tranquil sleep, awaking in ten or fifteen hours with restored reason, without remembrance of the past, but weak and sensible to pain; the appetite returns, and the primary disease pursues its usual course. The delirium may re-appear two or three times after one or more days of remission, but at each return it is more feeble. The most striking symptom is the calm state of the circulation and absence of all febrile symptoms, notwithstanding the disturbed state of the sensorial functions; the patient is furious, out of his mind, his face inundated with perspiration, his eyes sparkling, his cries loud, but his pulse is calm and regular, and the state of skin removes every suspicion of inflammation. It is a true mania, but of short duration. Those who are nervous and pusillanimous, or whose head has been overset by a strong and quickly-conceived resolution, are most liable to this delirium. Thus it is very common among suicides; but athletic men are not exempt. Women are less exposed to it, and it has not been observed among children. M. Dupuytren, in the great majority of cases, founds his prognosis on the accompanying disease. Thus, if the delirium follows a fracture of the bones of the limbs or chest, the prognosis will be more unfavourable than if it succeeded simple wounds which were not in themselves dangerous. Post-mortem examinations do not explain the symptoms. As narcotics taken into the stomach, as well as depletion, &c. have generally failed, M. Dupuytren has been led to adopt a mode of administering sedatives, which has so constantly succeeded that he is inclined to call it a specific. It consists in the administration of some drops of laudanum in a small glyster. Five or six drops of laudanum in a four-ounce lavement produce more effect than three times the quantity taken into the stomach. These should be repeated three or four times at intervals

of six hours. This superiority is owing to the surface of the rectum being a purely absorbing surface, whilst medicines given by the mouth are subject to the action of the gastric juices; to this must be attributed the uncertain effect of so many vegetable narcotics.

ART. VIII.—FRACTURES OF THE INFERIOR EXTREMITY OF THE FIBULA, AND LUXATIONS OF THE FOOT.

Although the fibula is weaker than the tibia, and more exposed to external injuries, it is less frequently fractured. This is to be attributed to its not transmitting the weight of the body to the foot, to its elasticity even in old age, and to the protection from external violence which it receives from the numerous muscles which surround it. But fractures of the fibula have been reported by writers to be of less frequent occurrence than they really are, owing to their being frequently mistaken and often confounded with luxations of the tibio-tarsal articulation. M. Dupuytren estimates that fractures alone of the inferior extremity of the fibula, are to the rest of fractures of the leg, as one to three. The powers which produce fractures of the fibula act either directly upon it, or indirectly through the medium of the foot; hence two kinds of fractures, differing in their causes, effects, and curative indications. Direct violence produces fractures of the middle and upper part of the bone, and are less frequent than its situation and form would indicate; owing to the rarity of such causes, and the protection which the bone receives from the peronei muscles. These fractures are remarkably analogous to those of the ulna, which M. Dupuytren asserts is never broken by itself, unless by violence immediately applied. If the tibia remains unbroken, there is no displacement as to length; the foot preserves its normal direction, and the depression caused by the fractured ends of the bone being slightly driven inwards, is felt with difficulty. On this depression, as well as the circumstances connected with the injury, as the violence of the blow, the weight of the body which has struck the limb, the existence of a large ecchymosis and violent contusion, and the ease with which the fractured ends are depressed towards the tibia, must the diagnosis be founded. Sensible crepitation can rarely be produced, owing to the small size of the broken ends, and the exactness of the relations which they preserve. In simple fractures it is merely necessary to keep the limb immoveable by the usual apparatus. The fracture is consolidated in thirty or thirty-five days. Fractures of the malleolar extremity of the bone are much less simple; their results are frequently unfortunate, and they have been constantly confounded with luxations of the foot, Notwithstanding they had attracted the particular notice of Petit, Pott, Boyer, and many other celebrated surgeons of both countries, M. Dupuytren, who has paid great attention to the subject has rendered the history of these fractures more complete, and their management more certainly efficacious.

Causes. The inferior extremity of the fibula may be broken by direct violence, or indirectly through the medium of the foot. Accidents of the first class present no remarkable characters, whilst those of the second demand the closest attention of the surgeon, especially as to its causes, that he may be aware, in doubtful cases, of the possibility of the existence of this

injury. A stone, an excavation, or even a simple inequality of the ground, a fall from a place more or less elevated, on the feet, bent either inwards or outwards, are the most common causes of these accidents; they are the immediate result of the weight of the body and of muscular contraction acting suddenly and violently on the inferior articulation of the leg, at the same instant as the foot carried either inwards or outwards is removed from the vertical line. If the foot is forced inwards, the line of the transmission of the weight of the body, instead of intersecting the axis of the tibia, and falling on the astragalus, passes obliquely from within outwards, through the inferior extremity of the tibia, the articulation, the external malleolus, and the outer side of the foot. The weight of the body is then supported by the outer ankle, and the inferior extremity of the tibia; and the external malleolus, or even the inferior extremity of the fibula, give way, from the traction of the external lateral ligaments, which exert more force from their being placed in a direction almost perpendicular to the malleolus, when it is resting on the sharp edge of the astragalus, which is forcibly driven from within outwards by the tibia. This last bone, thicker and stronger than the fibula, in general resists, and if its malleolus or inferior extremity are broken, it is not primitively, and by treading with it again, but consecutively, and by the displacement of the foot outwardly. When the foot is forced outwards the centre of gravity of the leg traverses obliquely the inferior part of the fibula, the articulation of the foot, the internal malleolus and its ligaments, and falls on the ground at a greater or less distance from the internal edge of the foot. The internal ligaments, and the malleolus to which they are attached, on the one part, and the inferior extremity of the fibula, on the other part, have to support the weight of the body and the muscular action, these are consequently torn or fractured, the lateral ligaments, or the inner ankle give way in the first place, and the inferior extremity of the fibula in the last.

Signs. These are of two sorts, presumptive and characteristic. The presumptive are the kind of accident, a cracking noise heard at the same instant, fixed pain in the lower extremity of the fibula, difficulty or impossibility of walking, swelling around the joint, and particularly around the lower ankle. The characteristic marks, are, an unnatural mobility of any point of the lower extremity of the fibula, crepitation on motion, the ease in which the fibula can be pressed against the tibia, the mobility of the foot in a transverse direction, the change in the point of incidence of the axis of the leg on the foot, the displacement of the foot inwards, outwards, or backwards, rotation on its axis from within outwards, an angular depression at the external and inferior part of the leg, prominence of the inner ankle, the disappearance of almost all these marks as soon as the reduction of the foot is attempted, and their immediate return when such efforts are suspended, and especially when the limb is placed in an extended position. Such is a general enumeration of the symptoms, some of which require a more detailed examination. The fibula being broken, the external side of the mortice which receives the astragalus loses its solidity, no longer resists the action of those muscles which tend to turn the foot outwards, and which now overcome their opponents. The external border of the foot is consequently raised, the internal depressed, its dorsal surface is turned directly

upwards, and its palmer surface outwards, the pulley of the astragalus is directed to the inner malleolus, and sometimes forms an eminence easily distinguished beneath the integuments; the outer malleolus undergoes a kind of semi-rotation on the tibia by which its summit is elevated and it brings nearer to the axis of the limb the superior extremity of the fragment that it terminates. The foot is thus displaced from the centre of the inter-malleolar surface; so that in drawing a line through the axis of the tibia it would fall on the internal side of the tarsus, and the weight of the body would be supported by the internal angle and its ligaments. This displacement of the foot outwards is the only one which would necessarily result from the fracture of the fibula, it is more marked in proportion as the bone has been fractured near its extremity, and the patient has endeavoured to make use of the maimed limb. In those cases where the fracture results from the violent inclination of the foot inwards, the muscles speedily draw it outwards. In cases where the accident has been misunderstood, or imperfectly treated, the soft parts are distended, inflamed, and disorganized; the synovial capsule is opened, and the articular extremities become carious and are destroyed. In the most favourable circumstances the patients are never able to use the limb without the aid of crutches or a wooden leg. M. Dupuytren has collected a large number of cases proving the unfortunate effects which result from these accidents not being recognized. In passing the finger over the inferior portion of the fibula an unusual mobility, which is different from the elastic flexibility of the bone, is discovered at the situation of the fracture. This is rendered more manifest by embracing the tibia with four fingers of each hand, whilst the two thumbs are pressed alternately against the two ends of the fracture. There is generally very little crepitation, often none. In seizing with one hand the inferior part of the leg, and with the other the tarsus, the foot can, if the fibula is fractured, be alternately carried outwards and inwards. If left to itself the foot is carried outwards, the internal malleolus forms a considerable eminence, over which the skin is tensely extended, the axis of the limb falls on the inner side of the tarsus, the space which separates the two malleoli is increased, on the external side of the articulation the skin is thrown into transverse furrows, the external malleolus appears sunk, above it and at the seat of the fracture is seen almost always a sudden depression directed from before backwards, or as M. Dupuytren expresses it, "une sorte de *coup de hache*," which is a pathognomic symptom of this accident. In some cases the foot has been so forcibly bent inwards that it remains in the same situation notwithstanding the fracture of the fibula; but then the superior extremity of the inferior fragment projects against and threatens to tear the skin, and the inequalities of the fracture are felt by the finger; after the reduction of the luxation the muscles draw the foot outwards, so that this form of the accident cannot be mistaken.

M. Dupuytren divides these fractures into simple and complicated. The fracture is simple when the injury consists solely of solution of continuity of the bone. This is extremely rare and difficult to recognize; there are two varieties of simple fracture; in the first the bone is broken at upwards of three inches from the malleolus, and similar observations apply to this fracture as to those higher up, and which have been previously detailed; the second variety includes all those cases where the fibula has been broken at

less than three inches above the malleolus without displacement of the foot. It most usually occurs at about two and a half inches above the extremity of the malleolus when the injury has been produced by the foot having been violently twisted outwards, because at that point the fibula is most weak and thin, and it is bent inwards by the weight of the body, and the action of the muscles. If the foot has been forcibly turned inwards, the fibula generally gives way below this, and at that part which is logded in the groove of the tibia. Complicated fractures of the fibula are numerous. 1st. The force which bending the foot outwards and fracturing the fibula may be so violent as to rupture the internal lateral ligaments, and fracture the inner malleolus, or the same injuries may be produced by the patient's endeavouring to walk after the foot has been thus forcibly twisted inwards. 2nd. Instead of a fracture of the inner malleolus and rupture of the lateral ligaments, the inferior extremity of the tibia may be broken. 3rd. This complication, which is almost universal, is luxation of the foot. This may take place inwards, backwards, outwards, and outwards and upwards. The dislocation inwards is so commonly united with fractured fibula, that one is rarely seen without the other; it consists in a displacement of the head of the astragalus, which is placed beneath and to the inner side of the tibial malleolus, the effect either of the prolonged action of the causes which have produced the injury, or of the action of the abductor muscles of the foot. The dislocation backwards is owing to the gastrocnemius and soleus by acting on the foot, which is no longer retained by the resistance of the external malleolus, drawing the astragalus from before to behind the inferior extremity of the tibia, whilst the lower end of the inferior fragment of the fibula is carried backwards, and its other extremity forwards. The dislocation outwards is the rarest and most difficult to explain. The astragalus is then carried to the side, and beneath the external ankle, whilst the outer border of the foot is placed inferiorly, the sole inwardly, and its internal border superiorly, the tibial malleolus is hidden, and disappears at the bottom of the angle formed by the foot and the leg, and the fibular malleolus forms with the astragalus an angle, prominent, and rounded posteriorly. The foot has the appearance of a congenital club-foot.

M. Dupuytren attributes this rare accident, in which the astragalus is carried outwards and the foot inwards, notwithstanding the superior muscular power of the abductors over the adductors, to the obliquity of the fracture of the tibia, influencing the direction of the displacement, and to the resistance that the broken fragment of the bone makes to the foot being carried outwards, thus favouring the action of the abductors. The luxation of the foot outwards and upwards, and which has not before been described by authors, has been observed but once by M. Dupuytren during a practice of upwards of twenty-five years, during which time he has treated more than 200 fractures of the fibula, but the single case was so well marked as to prevent the possibility of mistaking such an accident in the future. The astragalus, the external malleolus and the foot were carried at first to the external side of the leg, and were subsequently drawn up along the tibia to the height of two inches without any separation of the different parts. Such an accident could not occur without fracture of the fibula and complete laceration of the tibio-perineal ligaments. Either one or both bones may be broken in many places and the spiculæ driven into the surrounding soft

parts, the articulations and the tendinous sheaths may be opened, and the tendons, nerves, blood-vessels, &c. displaced, compressed, torn or ruptured. The blood-vessels alone may be ruptured without this formidable complication of injuries just enumerated, and the blood may be effused in the cellular tissue around the joint in large quantities. Very commonly the skin is destroyed in one or more places, either primitively by the fractured ends of the bones, or consecutively by the effects of inflammation, &c. These lesions of the skin are so dangerous a complication, that fractures, by no means serious in other respects, may produce the most dangerous consequences, whilst the cure of internal injuries, to whatever degree they may have been carried, need never be despaired of, as long as the skin is sound.

When the tumefaction and tension which result from the flow of fluids towards the injured parts are not dissipated at first, they increase in a few hours to a most dangerous degree, the limb becomes livid, cold, and insensible, phlyctenæ full of reddish serosity are formed here and there, and gangrene comes on without any previous symptoms of inflammation. But in other cases inflammation succeeds the tumefaction, and this follows two different courses; in one, the inflammatory symptoms progressively increase, until they terminate in gangrene; in the other, slow phlegmonous erysipelas produces extensive suppuration, the subcutaneous cellular tissue sloughs, the skin gives way, slow fever comes on with loss of strength, until the patient, debilitated by fever, suppuration, and diarrhœa, dies. Tetanus, and nervous delirium are often fatal combinations. The bone, or fragments of bone which by the accident have been exposed to the air, are liable to necrosis; but this is a less common sequence than sloughing of the tendons of the inferior extremity of the leg. The symptoms do not manifest themselves immediately, but after a greater or less period of time, heat, redness, pain, tumefaction, tension, and obscure fluctuation are observed along the course of the tendons, the skin is gradually thinned and destroyed, and pus, followed by the dead shreds of the tendons, escapes.

The loose application of the terms outwards and inwards to dislocations and displacements of the foot, by surgical writers, is often the source of confusion. M. Dupuytren throughout this article, when speaking of luxations, applies them to the relative position of the astragalus and tibia, but when describing displacements of the foot, to the direction in which it points, thus, in luxation of the foot inwards, there is displacement of the foot outwards, and vice versâ.

Treatment. Potts has described the manner in which this accident can be reduced, with facility, and without effort; but he has not pointed out any means by which the reduction may be prolonged. M. Dupuytren in his treatment of these injuries has attended particularly to this most necessary part of the curative indications, the neglect or ignorance of which has been the cause of complete deformity resulting so often from this injury.

When there is simple solution of continuity of the fibula, the sole indication is to prevent all displacement of the fragments; repose and absolute immobility attain this object. These, together with reduction are sufficient when the accident is attended with simple displacement of the foot. But it is a question of considerable importance, whether there is any kind of complication of fracture of the fibula which contra-indicates reduction? As all

the unfortunate symptoms which follow, are the immediate effect of the powers which have produced the accident or the consecutive result of the fracture itself, and as they must become more dangerous the longer the cause persists, M. Dupuytren lays it down as a general rule, that the surest and quickest way to relieve these symptoms is to reduce the parts at every period of the disease. This was also the opinion of Dessault.

Reduction. Nothing is more easy to reduce than fracture of the fibula, attended with displacement of the foot, when the resistance of the opposing muscles is overcome. This end is obtained by bending the leg on the thigh, and diverting the attention of the patient. The resistance of the muscles is by this simple proceeding immediately overcome, and almost without effort the parts resume their natural position. Notwithstanding the apparently perfect reduction, it is always incomplete, for the fragments of bone remain depressed towards the side of the tibia, and the foot preserves a constant tendency to yield to the action of the lateral peronei muscles, and to be carried outwardly. Some method is therefore necessary to separate these fragments from the tibia, and to keep them in opposition. The superior portion is never depressed, and it is impossible to act on the inferior, except through the medium of the foot, which is closely connected with both malleoli. It will therefore be evident, that the broken external malleolus will be raised by carrying inwardly with some force the internal border of the foot, that is, placing it in the position of abduction. In this manner, the inferior extremity of the tibia is sunk deeply in the articulation, the astragalus is carried from within outwards, and the inferior fragment of the fibula performs on itself a movement of semi-rotation in a contrary direction to that which displaced it, and is thus placed in opposition with the upper fragment.

Means employed in maintaining the parts reduced. It is evident that the limb must be kept in the position which was necessary for its reduction. The apparatus which M. Dupuytren has employed for 25 years in fractures of the fibula complicated with luxation inwards, simply consists of a pad, a splint, and two bandages. The pad is made of linen, and filled two thirds with the chaff of oats; it should be $2\frac{1}{2}$ feet in length; 4 or 5 inches in breadth; and 3 or 4 in thickness. The splint should be from 18 to 20 inches in length; $2\frac{1}{2}$ inches in breadth; and 3 or 4 lines in thickness, of firm and but slightly flexible wood. The two bandages, made of partly worn linen, should be 4 or 5 ells in length. The pad doubled like a wedge, is applied to the inner side of the fractured limb, extended upon the tibia, its base resting on the internal malleolus without passing it, and its apex on the inner condyle of the tibia. The splint applied along the pad should pass five or six inches below it, and three or four inches below the inner border of the foot. The splint and pad are then fixed to the superior part of the leg, by some turns of the bandage passed from above downwards. In this state a space equal to the thickness of the pad, that is from 4 to 5 inches, is left between the splint and the foot; this extremity of the splint serves as a point d'appui to bring the foot from without inwards. For this purpose the end of a second roller is fixed to the splint, and is applied successively over the superior surface of the foot, over its external border, un.

der the sole, over the splint, then upon the instep, and under the heel, to return again over the splint, and to be continued in the same manner until the whole length of the roller is used. By this means, the foot is placed in such a state of adduction, that its external border becomes inferior, its sole is directed inwards, and its internal border upwards. The tibia, pressed by the base of the wedge formed by the cushion, is forced outwards, as well as the astragalus; the inferior fragment of the fibula, pressed outwards superiorly by the tibia, and drawn inwards inferiorly by its external lateral ligaments, performs that semi-rotation by which it is brought to its natural situation. In order to obtain a complete reduction, it is not sufficient to bring the foot into the same line as the leg, but it should be brought by the bandage as far inwards, as it was displaced outwards by the accident. This apparatus, besides the advantages it possesses of reducing the injury without effort, and almost without pain, and of maintaining the parts reduced, also leaves a considerable interval between the bandages, which exposes the articulation and the situation of the fracture, so as to allow the application of topical remedies, &c. The same apparatus is applicable in all cases of fracture, with simple luxation of the foot outwards.

In luxation outwards and upwards, the splint, &c. must be placed along the fibula, instead of the tibia. But the luxation backwards presents both greater difficulties in reduction, and in maintaining the parts in situ. The difficulty of reduction depends on muscular resistance—that of keeping the parts in situ, when reduced, arises from the superior surface of the astragalus, convex from behind forwards, being so slippery that the tibia rests perpendicularly upon it with great difficulty, being constantly disposed to incline forwards, whilst the astragalus itself, incessantly acted upon by the extensor muscles of the foot, which are more powerful than the flexors, has a continual tendency to slip behind the inferior extremity of the tibia.

In this accident, M. Dupuytren employs, besides the former apparatus, a small cushion, some inches square, filled with hair or oat-chaff. The large pad, folded as a wedge, is placed on the posterior part of the leg, extending from the heel to the hollow of the ham, its base inferiorly and its apex superiorly. The splint is applied on this pad, and is fixed to the upper part of the leg by one roller; a second bandage embraces the lower extremity of the splint and the leg, and is the really acting part of the apparatus. The small pad is placed on the tibia, to preserve it from the compression of the turns of the bandage, which, bearing on the splint and tibia, carry at the same time the heel forwards and the tibia backwards. Such is the power of this method, that the only fear is that it will be too great. In those complicated cases where the foot is luxated inwards and backwards, the treatment must be adapted to the displacement which is most predominant. In a contrary case, it is easy to combine both methods, so as to fulfil the double indication. Seven cases are detailed at some length, supporting the principles laid down by M. Dupuytren, and contrasting the former treatment of these accidents, with his improved method. The following is a short abstract of the last case, exemplifying the unfortunate consequences which result from the delay of reduction.

A servant of M. T. fell from a tree on the inner border of the right foot; this was followed with acute pain in the joint, and great tumefaction. A country surgeon pronounced it a sprain; a second discovered, on the fifth

day, the nature of the accident, but recommended leeches, emollient applications, &c. and delay of the reduction and fracture, until the inflammatory symptoms had subsided; but they increased, an abundant suppuration of the parts took place around the joint, and gangrene threatened. M. Dupuytren was called in; he found all the appearances strongly marked, of luxation of the foot inwards, and fracture of the fibula, and being convinced that the disorganization of the soft parts was owing to the displacement, and would continue unless the cause was removed, he proposed immediate reduction. The other surgeon opposed this proceeding, stating it to be useless, as it could be performed at a later stage without difficulty, and dangerous, from the parts not being in a fit state to support the efforts of reduction. The suppuration of the cellular tissue and sloughing of the skin continued. The symptoms were somewhat abated at the end of three weeks, and reduction was then attempted, but in vain; during fifteen days, at various intervals, the attempt was repeated, but with no better success. Notwithstanding the subsequent erysipelas, excessive suppuration, bilious fever, &c. the patient recovered, but with permanent deformity.

The effects of the treatment recommended by M. Dupuytren are, 1, The return of the foot to its natural situation; 2, The exact reduction of the fragments, so that, when the cure is completed, no trace of the injury can be detected; 3, The instantaneous cessation of the painful suffering produced by the displacement; 4, The rapid diminution of the tumefaction, &c.; 5, The removal of all the causes capable of producing unfavourable consecutive symptoms, and thus preventing spasms and tetanus, and rendering any inflammation which may follow comparatively mild.

In simple fractures, and in the greater number of those which are complicated with displacement inwards, backwards, or outwards, with infiltration of blood, or laceration of the lateral ligaments, the apparatus is to remain applied from 25 to 35 days; those which are complicated with serious injury of the soft parts, internal as well as external, with spiculæ, inflammation, suppuration, &c. will require from 40 to 60 days, and from 60, 80, to 100 days if the bones are much comminuted, and there is consequent necrosis of the bones or sloughing of the tendons. Convalescence is not, in general, completely established in less than double the time occupied in the actual treatment, whatever may be the kind of fracture. In all cases, on taking off the apparatus, the foot appears to be bent inwards, that is, in adduction. But the action of the muscles, or, in some cases, the application of the apparatus to the outside of the leg, speedily brings it to its natural position. In 207 cases treated thus by M. Dupuytren, 202 have been cured, 5 only have died, 2 of whom were destroyed by diseases independent of the injury. In all, the form of the limb has been restored, except two, in whom the heel has remained a little elongated backwards, whilst the tibia projected slightly forwards. All, except one, have recovered the free motions of the joint.

Art. IX.—On False Aneurisms of the Brachial Artery.

Bleeding is often looked upon as too simple an operation to merit particular attention; hence the comparative frequency of inflammation, phlebitis, varicose, diffused, and circumscribed aneurisms, following this small incision.

During 15 years, M. Dupuytren, in his own practice, has had at least two cases of false aneurisms annually from this cause. These might all have been prevented by these few simple precautions;—1, Bleeding should never be performed before the pulsations of the artery have been felt. 2, The vein placed before the artery should *never* be opened. 3, Other veins should always be chosen, and, when they are not evident in the fold of the arm, recourse should be had to those of the fore-arm or hand. In the treatment of false aneurisms of the brachial artery, from puncture, M. Dupuytren employs one ligature above the tumour; this treatment is almost constantly successful when the injury is recent, as the operation then places the lips of the wound of the artery in the condition of a fresh wound, disposed to unite; whilst the ligature has less chance of success when the puncture is of an older date, as its edges, being cicatrized, are incapable of adhesive inflammation. When a wounded artery is situated at the extremity of a limb, its communications are so numerous that it will require two ligatures. The particulars of four cases of false aneurism, consecutive to bleeding, are given; in all of them, M. Dupuytren tied the brachial artery, with one ligature, above the tumour, with success. In one of these the operation was performed two months after the injury, in another nine days after, in the third the time is not mentioned, but the original wound had healed, and the tumour was as large as the fist, and, in the last, the ligature was successful one month after the awkward venesection. Another case is detailed, in which two ligatures were applied to the radial artery, one above and the other below a false aneurism, produced by a wound by a penknife.

ART. X.—ON FRACTURES OF THE PATELLA.

Vertical fractures of the patella are not so uncommon as is imagined. Lamotte is the only French writer who has, perhaps, detailed a case with any precision. The fracture was the result of a fall; the two portions of bone were slightly separated from each other, although the limb was demiflexed. It was placed in an extended position, and the knee was enveloped with resolutive compresses, and a moderately compressing apparatus. Complete consolidation took place in 20 days. The callus was but slightly apparent.

Nearly 20 years ago, M. Dupuytren admitted into the Hôtel Dieu, a middle-aged man, who had fallen from a great height; many bones were fractured, and the right knee was enormously bruised and deformed. The patient died on the third day. A longitudinal fracture of the patella was found, dividing the bone into two almost equal parts, the fragments were very moveable, there was manifest crepitation, and the capsule contained much bloody serum. Six months after a man was brought in, who was thrown down and run over by a carriage; the wheel had passed over his leg from above downwards, and had fractured his patella in a longitudinal direction. Crepitation, as well as the displacement of the fragments, was evident, and the suitable apparatus was applied. He was going on favourably, when severe pneumonia proved fatal, 20 days after the accident. The parts were examined—a well-formed callus was found uniting the fragments, and scarcely permitting any motion; the relation between the two surfaces was exact, and every thing announced a speedy and perfect cure. Three years

after, a man entered the hospital on account of an ulcer on his leg. M. Dupuytren observed that the patella of one side was larger than the other, having a very apparent vertical ridge. On relaxing the extensors and moving the bone, this elevation was felt to rub against the condyles of the femur. On questioning him, he said that, some years previously, he had fallen and broken the leg in many places. It was clear that the patella had been vertically fractured. Another case, which terminated fatally, is given. The patient was a young woman, in very bad health at the time of the accident.

These fractures, says M. Dupuytren, depend always on the direct action of external causes, and are generally accompanied by wounds and contusions. The principles by which M. Dupuytren is guided in the treatment of transverse fractures of the patella are similar to those which are in vogue in this country, and his modifications of the apparatus recommended by Sir A. Cooper are too slight to require here a detailed explanation. He supports the leg in an extended position, with the heel higher than the pelvis, by numerous large pillows, extending from the foot to the tuberosity of the ischium; and he applies the bandages, which fix the two vertical compresses employed for drawing the broken portions of bone together, to the whole length of the foot and thigh. He admits that, unless the patient seconds the efforts of the surgeon, these means are insufficient to insure a close union. M. Dupuytren is convinced, from a great number of cases, that osseous union of the patella may take place, if the parts are retained in perfect contact during the necessary time. In ordinary cases, he agrees with Sir A. Cooper, that the union is cellulo-fibrous, but he shewed to our celebrated countryman, when he visited Paris in 1829, specimens where immediate union had taken place, and where this fibro-cartilaginous matter could not be perceived.

In vertical fractures, repose, immobility, and complete relaxation of the muscles are necessary. The limb should be a little elevated by pillows, and protected by a cradle from the pressure of the bed-clothes.

In fractures of the patella, as in those of the neck of the femur, consolidation of the callus takes place in from 60 to 80 days. After this period, if the state of the patient permits it, he may take slight exercise, as there is then no fear of the elongation of the callus; a knee-cap or simple bandage should be previously applied. Experience teaches that an osseous union may be obtained by a longer sojourn in bed; in a word, that the extent of separation, after the formation of callus, is in an inverse ratio to the prolongation of this confinement. In proof of this, a case is given of comminuted fracture of the patella, with other injuries, which forced the patient to remain in bed five months. The usual treatment was adopted, but at the end of that time, the patella was so solidly united, that no traces remained of the solution of continuity; some small and very hard inequalities were alone felt on the surface.

Art. XI.—General Considerations on the Treatment of Fractures of the Extremities.

In fractures of the upper extremities, without wounds, M. Dupuytren employs the roller; he places some compresses across the limb, opposite the

fracture, besides the splints. In fractures of the humerus he uses many compresses, which he fixes with a few turns of the roller; over these he places four splints. In fractures of the fore-arm he pushes the flexor and extensor muscles into the inter-osseous space; over this he places graduated compresses and two splints; the bandage is applied from the fingers to the elbow. In fracture of the radius, besides the usual apparatus, he employs what he calls a cubital splint: it is made of iron, and curved at its inferior extremity; in the concavity of this curve are several buttons. The superior extremity of this metallic rod is fixed against the cubital border of the fore-arm. Between the inner border of the wrist and the convexity of the splint, a compress, folded many times, is placed to separate the one from the other, the hand is then fixed to the splint by means of a quilted compress, placed on its radial border between the thumb and the indicator, having two silk ribbons attached to its two extremities, which are to be tied to the cubital splint, and prevented from slipping by its buttons. In fractures of the olecranon, he places compresses only above the fracture; his anterior splint is straight. In fractures of the lower extremities, where the roller is so liable to be displaced, he employs the bandage of Scultetus.

ART. XII.—EXCISION OF HÆMORRHOIDAL TUMOURS.

M. Dupuytren agrees with Stahl, Morgagni, Petit, &c. that hæmorrhoidal tumours are dilated veins, They are either external or internal. When internal, they are covered with mucous membrane of a violet colour, forming a partition across the rectum divided by furrows, which are sometimes obliterated by inflammation. These are venous dilatations like the heads of pins, in the tissue of the mucous membrane itself, from which venous blood flows when they are cut, giving the membrane a spongy appearance. Beneath the mocus coat are false organized membranes, or the cellular coat, and next the muscular. Large arteries often accompany closely the dilated veins. The external tumours, which form a sort of corona around the anus, are composed—1, Externally, in great part by the rectum, and a little by the skin; 2, False membranes, or the nervous coat, which then seems to be continuous with the fascia superficialis; 3, The dilated veins, which constitute the piles; 4, The external sphincter which embraces their pedicle, and constantly covers them partially with its fibres; 5, Nervous filaments; 6, Fat, which is sometimes placed between the skin and these tumours. No attempt should be made to cure these tumours in individuals weakened by organic disease, of the liver, intestines, or especially of the lung. The symptoms of phthisis have been suspended for a considerable time by the presence of piles, and have re-commenced with all their destructive energy after the unadvised suppression of the evacuation. In women far advanced in pregnancy, or after accouchement, piles are not infrequent; they disappear with the evident cause. Surgical assistance is not necessary when the hæmorrhoids are not degenerated in their structure, and when they do not give rise to hæmorrhages and abundant purulent discharges which throw the patients into a profound and characteristic anemia; for the symptoms are then relieved by antiphlogistics. But when they are degenerated and give rise to these symptoms, excision alone, according to M. Dupuytren, gives any chance of success.

The external hæmorrhoidal tumours form a circular row of smooth rounded turbercles, of a brownish colour externally, where they are covered with skin, and of a vivid red internally, where the mucous membrane covers them; their external surface is rarely ulcerated, their internal frequently giving rise to hæmorrhages and purulent effusions, which tend to debilitate the patient. The internal tumours are often strangled by the sphincters, owing to an engorgement or prolapsus of the mucous membrane—a frequent complication in piles. They give rise to the same symptoms as the external, and form tubercles of a vivid red colour. Both kinds may be present in the same patient. Individuals affected with this complaint walk with difficulty; they are constantly compelled to stop from the acuteness of their pain; they endeavour, by sitting down, by rubbing against a wall, or by their hands to return the tumours which have protruded, but the relief is momentary, and the return of pain follows a fresh prolapse. More or less weakened by hæmorrhage or sero-purulent discharge, their skin becomes pale, colourless, dull, and wax-like; they become sad and melancholy, their intellects are weakened, and they often attempt suicide. The local degeneration goes on, scirrhus attacks the anus and lower part of the rectum, and death would be the effect of this, as well as of the abundant discharge, if the progress of the disease was not effectually opposed by their removal. The question is, what is the best mode? Compressison may obliterate such tumours, but the situation in this case prevents its application. Ligature exposes the patient to inflammation, insupportable pain, and sometimes to death. Cauterization is of incontestible service when it follows excision, but when applied to large tumours it produces excessive pain, and it may be productive of danger. Recision, or opening the veins with scissors, produces hæmorrhage and inflammation, whilst it leaves the tumours. Excision is the preferable operation, and M. Dupuytren employs it with the greatest success. The patient is directed to lie on his side on the edge of the bed, or on his elbows and knees, his legs being extended; or, what is better, one leg bent strongly on the thigh, and the other extended. If the tumour is internal, the patient is recommended to force violently as if he were at stool; an assistant separates the buttocks, whilst the operator seizes the tumour with a pair of broad forceps, and with a pair of long curved scissors removes it. Only that portion of the tumour projecting outwards should be cut off; for if the whole is taken away, the patient will be exposed to serious hæmorrhage, and a consecutive contraction of the anus. In acting thus, a considerable mass is left at the margin of the anus, so that a sufficient quantity does not appear to have been taken away; but when cicatrization is completed, all returns to a normal state. The same takes place in excision of the tonsils. The excision of external piles is less easy; the patient should sit over warm water, and make great expulsive efforts; he then should immediately lie in bed in the position recommended, so that the operator may at once seize and remove the protruded tumour before it re-enters. A laxative and a glyster should be given previously. The danger of excision wholly depends on the hæmorrhage which may follow. This is to be stopped by the actual cautery. When the tumour is external the operation is without difficulty; when internal it is not so easy, and the hæmorrhage is not so simply detected. The symptoms of the internal hæmorrhage are, a feeling of heat in the belly, which gradually extends upwards as the blood accumulates; or colic and

tenesmus. Sensibility about the lower part of the abdomen, especially towards the left iliac fossæ; respiration difficult and interrupted; the pulse, at first intermittent and irregular, becomes small and frequent; the skin is colourless, and the face is covered with cold sweat. Anxiety, despair of recovery, nausea, vomiting, covulsions, vertigo, &c. As soon as this is recognized, the patient should be directed to expel the blood, and a cold lavement should be given; the efforts expose the wound, and that part from which a jet of blood comes, is to be touched with the cautery heated to a white heat. M. Dupuytren has had instruments constructed for this purpose, one like a bean, and another cylindrical, (cautères en haricot, et en roseau.) This always stops the blood, and M. Dupuytren has never seen it followed by any danger. Indeed, whenever he removes piles, he leaves with the patient an intelligent assistant, with directions to use the cautery on the first indications of external or internal hæmorrhage. A less certain way of producing the same effect is the introduction of a pig's bladder into the anus, and filling it with charpie. This succeeded in one case in which M. Dupuytren tried it, but it is very inconvenient to the patient, and is almost always expelled by the involuntary contraction of the parts which it causes. A considerable tumefaction of the cellular and adipose tissue of the anus follows excision, producing irritation of the rectum, and impossibility of going to stool for four or five days. The preceding measures, and the low diet in which they are kept subsequently to the operation, prevent any bad effects arising from constipation. The tumefaction yields readily to leeches, fomentations, &c. The sudden removal of the cause of such large evacuations in those who have been reduced to a state of anemia, often produces artificial plethora, and sanguineous congestions of the various organs. If the patient is young and vigorous, and the discharge was sanguineous, he must be repeatedly bled, at short intervals; in opposite circumstances, another discharge must be substituted, as setons or issues with laxatives. The cicatrization of the wound produced by the removal of an external hæmorrhoidal tumour, generally is sufficient to oppose the exit of the internal, so that the excision of the former is sufficient. If a second removal is practiced, the tumour does not generally return, and the patient is cured for ever of his infirmity. Permanent contraction of the anus which has followed excision is prevented by the introduction of pledgets of linen into the anus, and renewing them until the wound has healed. Seven cases are detailed, illustrating these practical remarks of M. Dupuytren. In two the hæmorrhage was stopped by the bladder and charpie. In two, the cautery was applied immediately after excision; in two others it was used to stop internal hæmorrhage; in one only was excision alone sufficient. M. Dupuytren calculates from a large number of similar operations, both in hospital and private practice, that two-fifths of those who are not cauterized experience internal hæmorrhage, whilst it has never followed the application of the cautery. As, therefore, it is impossible to tell, a priori, if the patient will be among the small number of those that escape, and as the sequelæ of cauterization are not dangerous, but yield readily to simple means, should not the cautery be used always immediately after the operation? Such reasoning, together with the knowledge of the dangerous results of hæmorrhage, and the imposibility, in some cases, of rendering immediate and

successful personal attention, M. Dupuytren acknowledges to be of weight, and such as to justify a modification of the operation he usually performs.

Here we must at present conclude ; and if the first article on these volumes has occupied more room than was first intended, it must be attributed to the fund of useful and original matter which the work contains, and which rendered a shorter yet comprehensive analysis almost impossible. The persevering zeal and unwearied assiduity with which M. Dupuytren performs his public duties as a hospital surgeon and clinical professor, all who have attended the Hôtel Dieu will allow ; and it would be unnecessary even for foreigners to laud his acknowledged talents and acquirements. We are therefore surprised at the bad taste which the physicians who have edited these volumes, have exhibited in the profuse expenditure of common-place laudatory epithets, whenever the name, the talents, the experience, the lectures, the theories, the discoveries of M. Dupuytren are mentioned.

II.

ELEMENTS OF MATERIA MEDICA AND THERAPEUTICS. By *A. T. Thomson*, M.D. Vol. I. pp. 747. October, 1832.

THE Materia Medica, after all, furnishes us with the powder, shot, and cannon by which we assail the citadels of disease, and without this *materiel* of war, all our fine-spun rules of gunnery and fortification are of no avail. Dr. Thomson has dedicated a long professional life, not, indeed, to the exclusive study of this branch of our art, but certainly to a more than ordinary cultivation of it :—he is, therefore, well qualified to bring this portion of study to the greatest degree of perfection of which it is, at present, susceptible. He laments that a wrong direction is given, by the corporate bodies, to the routine of the tyro's studies, by compelling him to *commence* his medical education with the materia medica ; whereas he should be directed previously to attend at least one course of natural history, botany, chemistry, anatomy, and physiology, without some knowledge of which, he cannot comprehend the doctrines delivered in a course of materia medica, far less those relating to therapeutics. The author flatters himself that, in this work, he has rendered the mistake in medical education sufficiently evident, and, consequently, tended to effect its correction. Dr. Thomson appears to have availed himself, with his characteristic assiduity, of the labours of the Continental chemists and medical writers, as well as of his own country and America, to enrich his work ; and although much of it must necessarily be a compilation, yet the author has introduced the results of 30 years' attentive observation in the treatment of disease into the work, and thereby given a considerable portion of original information to his readers.

This first volume is divided into three parts—first, on the general action of medicines—secondly, on the classification of medicinal agents—and, thirdly, on materia medica and therapeutics. It must be evident that such a work is insusceptible of analysis, and not a fair subject of criticism. The

latter, indeed, is out of the question, for he must be cynical, who would dream of assailing so careful and valuable a publication. Whichever way we turn, we are forcibly struck with the professional enthusiasm, professional information, and general knowledge of the estimable author. Such teachers confer as much credit on an university, as it can possibly reflect on them.

We should be loth to indulge in mere commendation, without placing before our readers a few specimens of the manner in which the subjects are handled. We will endeavour to comprise, in this necessarily brief notice, some passages illustrative of the style, the taste, the learning, and the arrangement of Dr. Thomson. We have said that the first part is devoted to the consideration of the General Action of Medicines. This is divided into three sections. The first is devoted to their chemical, revulsive, direct action, and so on—the second, to their action on the solids, the fluids, and the functions—the third to the investigation of the circumstances modifying their action. The first quotation in which we will indulge, shall contain some of our author's observations on the action of medicines decomposed in the stomach, or after entering the system. This affords a sample of his pharmaceutic physiology.

"With respect to vegetable medicines, this decomposition is effected in the same manner as that of alimentary substances. Many experiments have ascertained the fact, that all simple aliments, such as *albumen, gelatin, fibrine, caseous* matter, *vegetable mucus, sugar, starch*, and *gluten*, are soluble in the gastric juice; and that all compound aliments, containing these substances as constituents, are also dissolved by it, under certain conditions, connected with the structure of the compound substances. A substance, for instance, the components of which are, when separate, readily soluble in hot water, is very quickly dissolved in the gastric juice. It is less quickly dissolved if the components, separately, require the assistance of acids for their solution; as those, for instance, which contain much *gluten, concrete albumen, fibrine*, and *caseous matter:* and the gastric juice scarcely acts at all upon the *husks of grains*, the very *hard fibres of woody plants, hairs, feathers*, and substances of a very compact texture. Now as all vegetable substances are components of some of these simple aliments, and are more or less susceptible of solution in the stomach it is evident that all vegetable medicines must also undergo digestion to a certain extent; although it is probable that some of them previously act upon the nerves of the stomach. The decomposition, however, is generally first effected, and the active principle being thus extricated, acts either *directly* upon the nerves of the stomach, or escapes into the circulation, whilst the other constituents are completely digested. It is to this circumstance that we may ascribe the time which elapses, after swallowing some medicines, and the period when their operation becomes apparent. Thus, if half a drachm of the powder of the root of Ipecacuanha be swallowed, from fifteen to thirty minutes generally elapse before vomiting is produced, a circumstance which we may fairly attribute to the envelopment of the *Emetina*, the active constituent of the Ipecacuanha, in the *Wax, Gum, Starch*, and *ligneous* matter of the root; it cannot exert its influence until extricated from these by the process of digestion. In this manner, also, *Veratria*, the active ingredient of Colchicum; *Styrchnia*, that of Nux-vomica; and the medicinal principles of many other substances; are separated and pass into the circulation. The decomposition of medicines in the stomach by the digestive function, is not, however, confined to vegetable matters; the Acetas Potassæ, and some other salts in which vegetable acids enter as components, are liable to undergo the same process; the acid is digested, whilst the alkali passes into the circulation,

and is excreted by the kidneys. Such is the result of the digestive process on many medicines: those parts which are readily soluble in gastric juice are digested; whilst the active principle is set free, remains unaltered, and exerts its influence on the system. In all these, and similar instances, the decomposition is effected by the vital powers of the stomach; and the active principle of the medicine which is eliminated either acts *directly* upon the stomach, extending its influence to distant parts of the system, or it is absorbed and carried, in the course of the circulation, to those organs on which its appropriate action becomes apparent, whether *diuretic*, *sudorific*, *expectorant*, or otherwise." 20.

The effect of climate on the properties of drugs occupies our author's attention. From the midst of many curious and interesting remarks we copy the following.

"The effect of climate upon the medicinal properties of plants is strikingly illustrated in the history of the Meadow Saffron, Colchicum *Autumnale*. In England and many other countries, the Colchicum always contains an acrid, alkaline, bitter principle, *Veratria*, of great importance as a remedy, and a virulent poison when overdosed. At some seasons of the year, the bulb of the Colchicum, in this country, is more active than at others: but during the whole year, it contains a sufficient portion of its medicinal principle to render it a very hurtful substance if eaten as food:—yet, in other parts of the globe it may be eaten with impunity at some seasons. Kraterhvill, a German author, in his work 'de Colchico,' relates instances in which entire bulbs were eaten without any bad effect being produced on the habit. Krapf, another German writer, says that he has eaten the bulb with impunity in autumn, and that it is then eaten in Carniola and Istria: yet autumn is the period of the year when the bulb is most active in this country. The celebrated Haller, also, avers that it is both tasteless and inert in autumn. Now to what are we to ascribe those peculiarities in the Colchicum of the countries in which these writers lived? Their veracity is undoubted; yet their relations are at direct variance with our experience in this country, and, therefore, we can only ascribe the difference to climate and to local circumstances. For the same reason, Senna transported from Upper Egypt and grown in the South of France varies both in the external characters of the leaf and in its purgative properties: the leaves are more obtuse, less bitter and less nauseous when chewed, and much less purgative than the Egyptian Senna. The tree named Myrospermum *Frutescens*, when it grows in New Grenada, yields *Balsam of Tulou;* but when it grows in Peru it yields a very different Balsamic substance, which, from the place of its production, has been named *Balsam of Peru*. I may also mention that Mint, and many other plants which yield an essential oil, afford it of a much less penetrating odour in the South of Europe than in England: and, it is a curious fact, that almost all strong smelling plants lose their odours in a sandy soil." 72.

As an instance of the general knowledge brought to bear upon the matter of the work by Dr. Thomson, we present our readers with his view of the influence of superstition on medicines, or rather on their operation.

"The influence of *Superstition* over the operation of medicines is much more limited than that of Credulity; but it operates as a powerful obstacle to the advancement of medicine in those countries where it still exists. At an early period in the history of society, Superstition supplied many articles of the Materia Medica; but, as education advanced, these fell into disuse. The influence of Superstition arose from the characters of Priest and Physician being combined in the same person. This was the case with the Jews, as we learn from the Mosaical accounts of their early history. The priests of Æsculapius were also the first physicians of the Greeks. The Druids were those of the Northern nations:

and, in the history of our country, we read that, after the Anglo-Saxons had embraced the Christian religion, the clergy were the only medical practitioners. The first medical book translated into the Saxon language was the work of Apuelius on the virtues of herbs; and on this the whole of the practice of medicine was founded until the tenth century, when the monks took up both the teaching and the practice of the healing art, and drew their information from the writings of Galen, Rhazes, Avicenna, and other Arabians, which were translated into Latin and deposited in the monasteries. In the eleventh century, the clergy applied themselves particularly to the study of Materia Medica. Richard Fitz-Nigel, who died Bishop of London, A.D. 1198, had been apothecary to Henry the Second: Roger Bacon, who flourished in the thirteenth century, practised physic, although a monk: in the same century, Nicholas de Farneham, physician to Henry the Third, was made Bishop of Durham: and many other doctors of medicine were, at various times, elevated to ecclesiastical dignities. It was even thought essential that physicians should remain in a state of celibacy; and it was not until the fifteenth century that they were permitted to marry in countries professing the Roman Catholic religion. In periods like these Superstition held her sway, equally over the religious opinions, and the credulity of the mulitude, in matters relating to the cure of their diseases. It was easier for a crafty priesthood to work upon the weakness of the mind than to investigate the nature of diseases and their remedies; thence, we find that the same means which they had so successfully employed in duping mankind, in matters of religion, were turned to equal account in what related to medicine. Little confidence was placed in medicines, even at a later period; for Burton, in his Anatomy of Melancholy, informs us 'that there was of old no use of physicke amongst us, and but little at this day, except it be for a few nice idle citizens, surfetting courtiers, and staufed gentlemen lubbers. The country people use kitchen physicke.'

If we go back to the period of Scripture history, we find that the Jews had great faith in phylacteries—a species of amulets, which are still held in esteem in India and other Eastern countries. They consisted of portions of Scripture written upon vellum of a shape and size adapted to the part of the body on which they were to be worn. Thus, a phylactery for the head, preserved in the Duke of Sussex's library, consists of four slips of vellum, with verses from Scripture written on each. These are separately rolled up, and placed in a small leather bag, upon which is written the word *schin*. It is tied to the head by means of thongs of leather, so as to permit the bag to rest on the forehead. These phylacteries are called tephillin, shel-rash, tiffila of the head. Those of the arm are called sheljad: they are written upon a strip of vellum, which is rolled up spirally to a point, and enclosed in a case made of the skin of any clean beast. They are bound upon the arm, in a situation as near to the heart as possible, by a thong which must go seven times round the arm in a spiral manner and terminate by being wound three times round the middle finger. Coral worn round the neck was supposed to possess the power of driving away evil spirits.*

As Christianity advanced, the Clerical physicians seemed anxious to render the dogmas of the existing religion subservient to medicine; and, consequently, relics were introduced into the Materia Medica. We read, that bread dipped in oil at the shrine of St. Anthony, at Rome, was believed to prevent Hydrophobia in those bitten by a rabid animal; that a ring, taken from the body of St. Remigius, and dipped in water, produced a drink very efficacious in fevers; and the following cure for epilepsy in children is recommended by John

* "It is melancholy to think that a relic of this superstition is still countenanced by the higher ranks in this country: beeds formed of the root of the Bryony are strung together, and sold under the name of anodyne necklaces, for facilitating the protrusion of the teeth in the gums of an infant."

of Gaddesden, Walter Gilbert, and others, who flourished in the thirteenth century. 'When the patient and his parents have fasted three days, let them conduct him to the church. If he be of a proper age, and in his right senses, let him confess. Then let him hear mass on Friday, during the fast of *quatuor temporum*, and also on Saturday. On Sunday, let a good and religious priest read, over the head of the patient in the church, the gospel which is read in September, in the time of vintage, after the feast of the holy cross. After this, let the priest write the same gospel devoutly, and let the patient wear it about his neck, and he shall be cured. The gospel is—'This kind goeth not out but by prayer and fasting.'" 86.

The Second Part comprises the Natural Classification of Medicinal Agents. The first section is devoted to the consideration of Animal, the second to that of Vegetable Substances. A short extract will shew Dr. Thomson's mode of treating this division of his subject.

VEGETABLE SUBSTANCES.

Although the Linnean or Artificial System be that which has hitherto been employed for classing medicinal plants, as objects of Botany, yet, the Natural System holds out so many advantages to Medical Science, that there can be one opinion only of its superiority in a practical point of view: it informs the medical enquirer not only of the botanical affinities of the plants, but also supplies him with a knowledge of their properties and qualities. This acquaintance with the properties of even one plant of any order enables him to form some idea of the remedial value of all the other plants in the same order, and, if needful, to substitute upon fixed principles, any one of them for that which is more usually employed.

The great divisions of this System are *two:*

I. VASCULAR PLANTS, VASCULARES; plants having spiral vessels, both in the stems and leaves; cuticular stomatia;* distinct flowers; and sexual organs.†

II. CELLULAR PLANTS, CELLULARES; plants devoid of spiral vessels and sexual organs.

The first division contains, with a few exceptions, all the plants comprehended in the Materia Medica of the British Colleges. It is subdivided into two sub-classes:

1. DICOTYLEDONOUS PLANTS, or EXOGENÆ; plants with distinct pith, wood, and bark, in the stem and its ramifications; reticulated leaves; and fruit having an embryo with two or more opposite cotyledons or seed lobes. The plants grow by new layers annually deposited on the exterior surface.

2. MONOCOTYLEDONOUS PLANTS, or ENDOGENÆ: plants with no distinction of pith, wood, and bark, in the stem; with leaves displaying parallel veins; and fruit having an embryo with one cotyledon only; or, if there be two cotyledons, they are not opposite but alternate. The increase of the stem is by internal additions.

Seven eighths of the medicinal plants in the British Pharmacopœias belong to the first of these subclasses; as will appear in the following arrangement of them under the orders.

DYCOTYLEDONS.

UMBELLIFERÆ.—Herbaceous plants, with fistular-furrowed stems, and divided or

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* "Stomatia—organized pores, perhaps for breathing, like the spiracula of insects."

† "Sexual organs comprehend the anthers and stigma."

simple leaves sheathing at the base: *flowers* in umbels:* the *calyx* entire or five-toothed; *petals* 5, alternate with 5 *stamens* incurved in æstivation: *ovarium* didymous,† with two *styles* and solitary pendulous *ovula*. The *seed-vessel* is traversed with vertical ridges; and has, in some instances, near the base, *vittæ*, or linear receptacles of oil.

Geographical position: The northern parts of the northern hemisphere.

Yielding an aromatic volatile oil:
Carum *Carvi*.
Pimpinella *Anisum*.
Fœniculum *vulgare*.
Daucus *Carota*.
Coriandrum *sativum*.
Anethum *graveolens*.

an aromatic principle:
Archangelica *officinalis*.

Ammoniacum:
Ferula *Orientalis*.

a fetid gum-resin:
Opopanax *Chironium*.
Ferula *Persica*.
Ferula *Assafœtida*.
Bubon *Galbanum*.

an acrid gum-resin:
Cuminum *Cyminum*,

a narcotic principle:
Conium *maculatum*." 99.

Part III, treats professedly of the Materia Medica and Therapeutics. We have in order, Vital Agents—Excitants—Sedatives—Refrigerants—Narcotics—Antispasmodics—Tonics. And here we must notice our Author's Table of Classification. Almost every writer on the Materia Medica has had his own, and rejected those of his predecessors. The fact is, that it is impossible to frame a classification quite free from objections, for many drugs act on several organs, and not on one individually. We might point out many parts of Dr. Thomson's Classification which are open, critically speaking, to serious objections, but believing, as we do, that a faultless classification is altogether utopian, we think it scarcely worth while to dilate upon almost unavoidable defects. In fact we are no great sticklers for classifications, and the sense of the age, if we mistake not, is opposed to the encouragement of these cobwebs of Science. Men have now discovered that the true study of nature is the study of facts, and that all generalizations should be strictly inductive. A general rule is in its proper sense an algebraic expression, comprising a certain number of particular cases. Classifications are useful only as generalizations, as comprising an almost indefinite number of facts within definite and determinate limits. The most simple classification is therefore the best, for it is only of use as leading the mind to the more easy acquisition of the facts embraced in it. Provided then that a classification be devoid of intricacy and confusion, that it arranges the subjects at issue in a natural order, and that where it generalizes it does so fairly and not hypo-

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* "Umbel—that form of inflorescence in which the subordinate stalks, rising on the summit of a common flower stalk, extend in rays."

† "Two joined together."

thetically, we ourselves are perfectly satisfied. The complicated systems of nosology, and those artificial arrangements that attempt to usurp the very throne of nature, and delude the mind by their shadowy forms, are fast sinking before the increased intelligence of the age. The following, without further preface, is the classification of Dr. Thomson.

"TABLE OF CLASSIFICATION.

I.—VITAL AGENTS.

A.—Influencing the body generally;
a.—by operating directly on the nervous system:
* *increasing action.* — Excitants.
** *diminishing action.* — *Primarily*: Sedatives, Refrigerants. *Secondarily*: Narcotics, Antispasmodics.
b.—on the muscular and sanguiferous systems:
Tonics.
Astringents.
c.—on the secerning system:
Errhines.
Sialogogues.
Expectorants.
Emetics.
Cathartics.
Diuretics.
Emmenagogues.
Diaphoretics.
B.—Influencing the body solely by their action on the part to which they are applied.
Epistastics.
a. Rubefacients.
b. Vesicants.
c. Actual Cauterants.

II.—CHEMICAL AGENTS.

A.—Influencing the state of the body, or its contents, by their chemical properties;
* *acting on the surface.* — Escharotics.
a. Potential Cauterants.
** *on the contents of cavities.* — Antacids, Antalkalies.
a. Antiseptics.
Antilithics.

III.—MECHANICAL AGENTS.

Demulcents.
Diluents." 164.

We never pretended to offer a review of Dr. Thomson's work. Comprising much new matter with more that is merely elementary, it is too much to expect that a reviewer can peruse such a work sufficiently to point out all that is new, or all that is deserving of particular attention. Yet he may satisfy himself of its general tenor, and may be able to determine its general merits or defects. In this manner we have judged the present volume, and we think we may safely pronounce it creditable to the author, creditable to the school of which he is no inconsiderable ornament, and creditable to the

character of British Medicine. Need we say more, need we add the hackneyed recommendation to our students to buy? Most assuredly a good elementary work is certain of being successful in the end, and such a work we consider the present.

III.

ELEMENTS OF SURGERY. By *Robert Liston*, Surgeon to the Royal Infirmary, &c. &c. Part Third. Octavo, pp. 409. London and Edinburgh, 1832.

Two parts of Mr. Liston's work have been already published, and were introduced at the time of their publication to the notice of our readers. Being of an elementary character, we cannot pretend to review it, but we think we may venture to give a general idea of its merits by a glance at one or two chapters.

AFFECTIONS OF THE RECTUM.

The following short and accurate account of the anatomical structure of hæmorrhoidal tumours is not unworthy of notice. After stating that branches of the hæmorrhoidal veins become varicose, probably from their superior trunks being compressed, Mr. L. proceeds to observe :—

"The varix protrudes the superimposed mucous membrane; and at first the excrescence is composed of the dilated venous trunks containing fluid blood, and invested by the membrane, which inflames, thickens, loses its villous character, and discharges a vitiated secretion. In this stage the tumour is easily compressible, and by pressure may be made to disappear almost entirely, the communications between the varicose vessels and the trunks above being still unobstructed. But inflammatory action is soon kindled in the incommoded veins, as frequently happens in varix of the lower extremities; their coats become changed, are thickened, effuse lymph externally and internally, adhere to one another, and are ultimately matted into one confused and solid mass; the contained blood coagulates, becomes fibrinous, the whole tumour feels hard and firm, and often is painful. At length all traces of venous structure disappear; the tumour seems to consist chiefly of effused lymph, condensed cellular tissue, and coagula.

In not a few instances, however, the contents of the veins remain partially fluid, and a communication exists betwen the vessels of the tumour and those of the surrounding parts.

That such is the usual structure of piles, I am convinced from repeated and careful dissection of the tumours." 64.

Mr. Liston's treatment of piles is no novelty, but evinces judgment. In slight cases he employs astringent ointments or decoctions, with sedulous attention to cleanliness—for inflamed tumours, abstraction of blood by leeches or punctures, and subsequently fomentations—when constriction by the sphincter has occurred, replacement of the tumour, if possible—for irritability of the spincter, a bougie or incision—for internal piles, when an operation is required, the ligature, and for external, excision.

Inflammation of the Rectum. This may follow hæmorrhoids, or the operation for them, or may be occasioned by ascarides, or by hardened fæcal collections or biliary concretions in the cavity of the bowel, or foreign substances, as bones of small animals, needles, pins, &c. irritating or wounding its coats. Mr. Liston describes the symptoms of inflammation of the rectum thus:

"It is attended with excruciating pain, burning heat, and a feeling of contraction increased very much when the parts are thrown into action by evacuation of the contents of the bowel, or of the bladder. The heat may be felt on introducing the finger, with the view of examination; by doing so, dreadful torture is produced, and such manipulation should not be had recourse to unless there is a suspicion of foreign matter lodging in the part, by removal of which the action might be cut short. The bladder is often affected sympathetically; there may be frequent desire to empty it, or else retention of its contents; this latter occurrence not unfrequently follows operations on the bowel, as for the removal of hæmorrhoids. The inflammation extends to the cellular tissue round the rectum, with swelling and increased pain; the pain is aggravated by pressure, and the patient is unable to sit erect. As the painful symptoms abate, puriform discharge from the membrane of the gut takes place, and often is very profuse. The morbid action sometimes extends to the other intestines, attended after a time with mucous or even bloody evacuations. When the affection is confined to the rectum, the fæces and vitiated secretion are distinct from each other, and the former are usually of their natural appearance; but when the other intestines participate, to a greater or less extent, the fæces are fluid, and intimately mixed with the morbid secretion.

Ulceration of the mucous coat, with continued discharge, often supervenes. Sometimes the peritoneal coat of the bowel is affected secondarily, and then the pain is much more acute and more aggravated by pressure." 67.

Effusion, succeeded by suppuration, takes place in the cellular membrane round the gut, attended with fever of greater or less severity, according to circumstances. In persons of bad habit, or under unfavourable circumstances, the collection of matter may be most extensive, and productive of the worst form of typhus. Several cases of this kind have been recorded. A patient, for instance, has all the symptoms of typhus gravior without apparent cause, when by accident, or by careful examination, an abscess is discovered in the neighbourhood of the anus; it is punctured, and a fish bone escapes.

Mr. Liston also describes a carbuncular affection of the skin and cellular tissue in the vicinity of the anus. There is partial suppuration and extensive sloughing of cellular tissue, and the symptoms of depression soon become severe, and often fatal. Free and early incisions and stimulants alone can save the patient.

For inflammation of the rectum Mr. Liston recommends antiphlogistic treatment, local or general, according to circumstances—leeches and fomentations to the perinæum—and if suppuration occur here, an early opening. We recollect a remarkable case. A woman had a small circular ulcer of the rectum, just above the external sphincter. After an examination of it fever set in, and some tenderness of the abdomen, with sickness, succeeded. The case appeared to be one of muco-enteritis. At the end of five or six days the woman died. On examination of the body the ulcer of the rectum was found not to have passed quite through the muscular tunic

Inflammation and deposition of lymph had taken place between the muscular and mucous coats, and had extended up between the same tunics throughout the intestinal canal; there was comparatively little peritoneal inflammation.

"It has been recommended that, in abscess extending along the gut, the cavities of the bowel and abscess should be at once laid into one by incision. I have done so, but always found the cure to be tedious. It is better that the matter should first be evacuated through an external opening, that the painful symptoms and constitutional disturbance should be allowed to subside; and that after the cavity has contracted, and the extent of the sinus been ascertained, the operation should be performed." 81.

In considering *fistula ani*, Mr. Liston adverts to the means of detecting an internal fistula, that is, one which opens into the intestine, but does not open externally. He remarks that we may suspect its existence, when we observe puriform discharge from the bowel, increased on going to stool, and then accompanied with tenesmus; pressure on the side of the anus causing pain, and sometimes an augmentation of discharge; and in many instances hardness, deeply seated. On introducing the finger into the rectum, the aperture in the coats of the bowel is perceived, or a part of the bowel feels more boggy and tender than the rest; through this point a curved probe, introduced along the finger, may be passed into the sinus, and being then directed downwards, reaches the outer extremity of the canal, causes the integuments to project, or is readily felt from the surface. The internal opening is usually immediately within the sphincter, seldom higher. The discharge, in general, is rather profuse, the bowel is very irritable, desire to evacuate it is frequent, and the fæces are often tinged with blood. There is a sensation of itching about the fundament, the heat of the parts is felt by the patient to be increased, he is unable to bear pressure there, and sits on one hip: in most cases the bladder sympathises considerably. Mr. Liston strongly recommends the use of the speculum in these cases, as an adjuvant to the sense of touch. By these means, the surface of the bowel, for five or six inches above the anus, can be examined "as accurately as if it were an external part."

Mr. Liston relates a case, in which a portion of bougie remained for a length of time at the bottom of a fistula, and produced very troublesome consequences. As the case is brief, we will extract it.

Case. "A middle-aged man, when in Holland, laboured under a very deep and extensive fistula in ano. Sinuses were divided in all directions, and some healed; one, however, remained open, leading towards the gut from near the tuberosity of the ischium on the left side. He was desired to keep this open by means of bougies, which, as many were used, he manufactured himself out of cloth and plaster. On one occasion, a portion passed deeply, and could not be extracted; but his alarm at this occurrence was appeased on being told that the foreign body would be absorbed. His condition at that time was very miserable; and inflammation was often excited in the parts, with fresh collections of matter. At the same time, he laboured under stricture of the rectum and urethra. He applied to me fifteen years after the commencement of the disease. Then the most troublesome symptom was a constant itching in the perineum, and round the anus, preventing sleep, and causing much excoriation from involuntary scratching; besides, he was annoyed by seminal emissions, and frequent desire to make water. I first divided a small internal fistula, and some time afterwards operated on a large com-

plete one; in the latter instance, a foreign body was felt deep in the wound, the incision was extended, and a large portion of bougie, firmly impacted, was with some difficulty withdrawn. Some days after, other portions of bougie were extracted along with hairs; and these continued to be discharged for many weeks. The symptoms were much relieved. An occasional itching remained, but disappeared after the cure of a very bad stricture in the urethra. He recovered perfectly from the complication of diseases." 75.

Whilst adverting to the treatment of malignant diseases of the rectum, Mr. Liston makes a remark which is calculated to excite no small share of surprise and disgust. Female patients, says he, have by some been cruelly treated; the vagina and diseased bowel have been laid into one loathsome cavity, and though the patients have continued to pass excrement and discharge through this cloaca, with the symptoms undiminished, themselves miserable, and obnoxious to others, still such cases have been reported as cures! Can such things be? Is it possible that Mr. Liston has witnessed such daring charlatanerie?

We will now take the liberty of passing to another subject—stone in the bladder. Mr. Liston is well known to be a most dexterous, and a very successful operator; his opinions on lithotomy are, therefore, entitled to some attention.

Mr. L. observes that he has, on several occasions, removed from children concretions of considerable size through the urethra, by means of properly constructed forceps. He prefers Weiss's. He has experienced no difficulty in operating with it in many cases, and at all periods of life.

Mr. Liston appears to be no great friend to lithotrity or the lithotritists. He employs rather sharp expressions. In turning, says he, to the records of *Lithotrity*—and under this term we shall include all attempts to break down stones within the bladder, whether by drilling, or filing, or hammering—it will be found that many patients have died from the mere exploration; and altogether, nearly a half of those who had fallen into the hands of the experimenters and adventurers have perished in consequence. Every successful case is well advertised; the dead men rest in peace.

Mr. L. recommends all surgeons to make themselves sufficiently acquainted with the lithotritic instruments to be able to employ them if necessary. He prefers the three-branched lithotrite of Civiale.

"Various forms of drill have been contrived for acting on a large surface of the stone; others for scooping it out, the shell to be afterwards broken into fragments and triturated; they are unsafe and ineffectual. The instrument is also so constructed that a drill-bow may be used, and the apparatus may be fixed by what mechanics call a bench, or it may be attached, by complicated machinery, to the table on which the patient is laid, and be there secured in a proper position. But all this implies an intention of attacking large and dense stones, and a repetition of the attempts. So far as my experience goes,—and besides having seen Civiale and others operate, I have myself employed the instruments in a good many cases, and in some successfully,—I should dissuade from all endeavours to rid the patient of stone by such means, unless its size and consistence were such, that it would yield to one or two attacks, and to the drill set in motion by the fingers." 193.

Mr. Liston criticises severely M. Heurteloup's plan of breaking the stone by the stroke of a hammer. It certainly does appear to be a dangerous experiment. In point of fact, Mr. Liston does not believe that lithotrity will

ever supersede lithotomy. We cannot afford space for Mr. L's. mode of performing the latter operation, but we can advert to one or two points. In alluding to the hæmorrhage from the artery of the bulb, Mr. L. observes that, in his own practice, he never but once had hæmorrhage, chiefly, he believes, from never cutting *upwards* after the first incision. The knife which Mr. L. employs, has a blade and handle somewhat longer than those of a common dissecting knife, and without an edge till within an inch and a half from the point. With respect to the prostate, Mr. Liston's opinions appear to coincide pretty closely with those of Mr. Brodie. The latter able surgeon maintains that the capsule of the prostate should never be divided, and that, therefore it is better to dilate or tear the prostate than to cut it extensively. Mr. Liston directs the knife to be carried forwards through the prostate, with the edge directed downwards and outwards, cutting the gland obliquely. The knife is to be raised very little from the groove, the object being to divide the gland to the extent of no more than barely three quarters of an inch. By so doing, says Mr. L. the reflection of the pelvic fascia remains uninjured and the boundary is entire betwixt the external cellular tissue, and that loose and very fine texture immediately exterior to the bladder—betwixt it and the fascia immediately lining the pelvis.

"Some stones are of such a size, as will not admit of passage through the section of one side of the gland. By using the blunt-pointed knife, directed by the finger, without any additional external incision, a wound is made on the right side of the prostate, in the same direction and to the same extent as that on the left. Thus a triangular flap is formed, the apex towards the membranous portion of the urethra, and through the opening thereby afforded, any stone which will pass through the bones of the pelvis can be extracted without much difficulty. But no benefit can result from cutting both sides of the prostate, either by the double lithotome or in the manner just detailed, in all cases. It is time enough to incise the opposite side, when by introduction of the finger through the usual wound, it has been ascertained that the stone is too large to pass through. Then it is safer to cut the other side, than to enlarge the original opening, either by the knife, or by laceration in cruel attempts to extract the stone through an insufficient opening." 204.

Mr. Liston is a decided advocate for the introduction of a gum-elastic catheter into the bladder through the wound, after the performance of the operation. The catheter is to be secured in its situation. For some hours after the operation it is necessary to clean out the instrument frequently with a feather, to prevent its extremity from becoming obstructed with coagula. After the operation Mr. L. gives diluents copiously, bland nourishment sparingly. Depletion, he remarks, is seldom required, danger not being so likely to occur from peritonel inflammation, as from urinous infiltration of the cellular tissue.

"In the fatal cases, unconnected with hæmorrhage or exhaustion, the peritoneum is not found vascular or coated with lymph, nor is there collection of morbid secretion from this membrane within the abdominal cavity, but the cellular tissue, along the track of the wound, is black, disorganized, easily lacerable, putrid; or, if the infiltration has not been to such an extent or in such a site as to kill speedily as if by poisoning, unhealthy suppurations are found, extensive, uncircumscribed, composed of sanies, urine, and dead cellular tissue, horribly mixed. Should fixed and increasing pain be complained of in the hypogastrium, the part is to be leeched and fomented; this is the only indication of inflammatory action which has occurred in any of my patients, and it

has yielded to the simple treatment here mentioned; so far as I recollect, in only three cases was the leeching necessary. Some patients require support very soon, almost from the first; others evince sufficiency of action throughout, and in them it is very necessary to pay strict attention to the state of the stomach and bowels, lest the action should exceed; some proceed favourably for a time, and then become torpid and stationary, their spirits and constitutional power flagging, in consequence of confinement and the discharge and irritation of the wound,—such also require judicious support, and perhaps slight stimulation." 209.

Mr. Liston has only performed the *recto-vesical* operation once, and that under peculiar circumstances. The patient was aged 64, the symptoms had been irregular in their appearance. On introducing the finger into the rectum a firm, globular, large, and very slightly moveable substance was felt, and on sounding it was evident that the stone struck by the instrument was connected with this body. The lateral operations was performed, and both sides of the prostate divided. The stone could be easily laid hold of but not moved. On examination it was found that the stone was firmly enveloped by a cyst, situated between the rectum and posterior part of the prostate, and that only a small part projected into the bladder. Mr. L. laid the bowel, cyst, and track of the wound into one cavity by cutting the upper and anterior part of the cyst, passing a blunt-pointed and curved bistoury behind the remainder, of the cyst, insinuating it through the coats of the gut at that part, meeting the point with the fore-finger of the left hand passed per anum, and then carrying the instrument forwards to the surface. The stone was easily removed by a strong curved scoop. Some superficial sloughing took place in the wound, but the patient appeared to be doing well when, at the end of the fifth week he was seized with vomiting and purging, which lowered him very much. The wound made no progress, sloughing of the back took place, and he sank about the end of the eighth week.

We have already exceeded our limits. We think, however, that the extracts we have made, and the notice we have offered of the volume before us, will tempt many of our surgical brethren to consult it themselves.

IV.

MEDICO-CHIRURGICAL TRANSACTIONS, PUBLISHED BY THE MEDICAL AND CHIRURGICAL SOCIETY OF LONDON. Volume the Seventeenth. 8vo. 1832.

OBSERVATIONS ON TUMOURS. By WILLIAM LAWRENCE, Esq. F. R. S., &c.

Mr. LAWRENCE justly remarks that there are few subjects within the circle of his science, more interesting and important to the surgeon, than the history and treatment of tumours. Our information respecting them is yet limited, and although our notions are infinitely more exact and philosophical than they were even a quarter of a century ago, yet our knowledge con-

sists in a consciousness of ignorance, rather than in possitive acquisition; in the discrimination of morbid structures, rather than in an acquaintance with the laws which determine their origin, or the means which may accomplish their cure. Mr. Abernethy attempted a philosophical arrangement of tumours. His labours were undoubtedly beneficial, and he probably contributed to the prevalence of rational opinions, but his classification has proved a signal failure.

Mr. Lawrence's paper is on *Tumours*. Mr. Abernethy's classification was of *Tumours*. The term is most unfortunate; it is too comprehensive, and yet not enough so; it comprises growths which are irrevelent to the question, and excludes diseases which must necessarily be involved in its consideration. An organ may be invaded by a morbid alteration of its structure: for instance, by fungus hæmatodes; or the same disease may appear as a new formation, a morbid growth. In a comprehensive, nay, in a merely accurate view of malignant diseases it is impossible to separate altogether morbid growths from morbid alterations of structure. They must be viewed together and yet apart. Mr. Abernethy was hampered by designating his Essay one on Tumours, and as Mr. Lawrence remarks, he was obliged to abandon his definition in the very first page of his work. But the taste of the day is not to split hairs on definitions, which are often no better than logical cobwebs. What the age demands is a careful collection, comparison, and expression of facts.

After making some cursory remarks on the difficulty of separating morbid growths from morbid changes of structure, and the insensible lapse, not only of one into the other, but of various kinds of growths and structures into one another, Mr. Lawrence proceeds to say—

"I nevertheless consider, that Mr. Abernethy's original design of confining the term tumour to new productions ought to be strictly adhered to; and that the distinction between them and changes of structure, although it cannot always be satisfactorily established in our present imperfect knowledge of these affections, is not only useful, but very important both in pathology and treatment. We cannot expect that one and the same explanation will elucidate the origin and growth of an entirely new production, and the alteration of structure in a part; nor can we suppose that common principles of treatment will be applicable in the two cases. Mr. Abernethy, however, makes no distinction between them in his general observations, of which those relating to treatment seem chiefly applicable to changes of structure, while such, as are intended to explain origin and growth, can only be understood as applied to new productions.

Considering that as yet we understand but imperfectly the nature of disease, and the distinctions between such of its forms as are nearly allied, we need not be supprised that it is in many instances difficult, if not impossible, to frame satisfactory medical definitions. Thus, according to Mr. Abernethy's explanation already quoted, the gravid uterus would be a tumour; since it is a swelling caused by a new production, which made no part of the original composition of the body. The French writers seem to me to have done well in classing these growths under the general head of *accidental productions*, as contradistinguished from those which belong to the regular or normal state of the frame; also, in separating them into two divisions, according as they are analogous to the normal tissues, or different from them, *analogues* or *heterologues*: we might say *similar* or *dissimilar*. It will of course be understood, that these run into each other by insensible gradations. We might then define tumours to be accidental

productions, either similar to the normal tissues, or dissimilar, developed in the cellular or adipous structures, or in the substance of any organ. These productions are often unattended with any increased magnitude, therefore we must disregard the etymology of the word, and leave the circumstance of enlargement out of our definition." 6.

Mr. Lawrence here falls into a curious inconsistency. He censures Mr. Abernethy for not strictly attending to his own definition of tumour—proposes to use the term in the sense of Mr. Abernethy's definition—then shews that, so used, it is unsatisfactory, and may be applied even to a gravid uterus—lauds the French terms—and winds up by retaining that of tumour, with the proviso that we are to pay no regard whatever to its etymology, and leave the circumstance of enlargement out of our definition.

Mr. Lawrence must really excuse us for remarking, that this is a most lame and halting attempt at scientific precision. Mr. Lawrence next considers the three theories of the formation of tumours—the effusion of blood, its coagulation and organization—the effusion and organization of coagulating lymph—chronic inflammation. It needs no laboured argument to shew their futility. Those who advanced the hypotheses have found it impossible to support them by proof, and the fact is, that we are at present as ignorant of the manner in which new and morbid growths originate, as of the process of natural growth itself. Mr. Lawrence candidly acknowledges that he has no theory to offer on the subject. We take leave, then, of general considerations, which, however they may dazzle or amuse, cannot really instruct, and pass to the consideration of particular facts.

I. Cellular Tumour.

"It may be observed generally, that the accidental productions constituting tumours frequently correspond in their structure to the parts in which they are produced. Thus we have masses of fat formed in the subcutaneous adipous tissue; and on the other hand, tumours of cellular structure occur in that kind of the former; and as I have not met with any clear description of this kind of growth, which may be called *cellular* tumour, as the other is termed *adipous*, I shall relate a case of it, observing only that these, like adipous tumours, are not attended with pain or any peculiar symptoms; that they may attain very considerable size; and that they become troublesome or dangerous only in consequence of their bulk." 10.

Case.—*Large Cellular Tumour occupying the Labium Pudendi and Buttock.*

Mr. L. was consulted in 1826 by a lady, aged 28, who told him she had a rupture. A mass, about twice the size of Mr. Lawrence's head, and that is not a bad one, hung from one of the buttocks. Its base was smaller than below, where it expanded into a pendulous mass. The base reached from the coccyx to the left labium, and from the edge of the glutæus magnus to the anus. The tumour was soft, and slightly subdivided into large lobes. The skin was loosely connected to it, and where exposed to friction, was abraded. Some veins of moderate size could be obscurely seen upon the surface. The basis was quite moveable on the subjacent parts, but of uncertain extent towards the front; it was therefore, difficult to determine how far it reached inwards beyond the labium, towards the peritoneum. The

health was perfectly good. The complaint had existed for four years, and had not grown fast during the first two. It had commenced at the posterior part of the left labium, and had gradually extended along the buttock and behind the os coccygis.

On Sept. 9th, 1826, Mr. Lawrence removed the tumour. The base of the tumour was readily detached from the parts beneath, a few fibres of the glutæus magnus being exposed. The anterior portion, which advanced into the labium, could not be eradicated; it passed inwards along the side of the vagina, on which there was an evident drag when this part was pulled; Mr. L. cut it through. The part thus divided was tough, with a compact fibrous texture. There was much faintness from loss of blood. On the 23d, the patient went into the country, the wound being nearly healed.

The tumour consisted of a fleshy mass, undulating on pressure. Its texture on section was nearly uniform, tough and fibrous, and consisting of condensed cellular structure, nearly free from fat, of reddish-grey tint, with some fluid in the interstices.

The lady married, and returned in 1828, far advanced in pregnancy, and with a considerable reproduction of the tumour. It filled the left labium at its back part, and could be felt through the vagina as a kind of cord, ascending towards the pubes. She went through her confinement well, and Mr. L. removed the swelling again on the 1st August, 1828. The anterior prolongation ascended along the left side of the vagina, and seemed to pass under or behind the arch of the pubes. As Mr. L. was putting it on its stretch, it suddenly gave way. He found that it had tapered quite to a point, the end appearing entire, as if the whole morbid growth had come away. The healing went on well, and there has been hitherto no reproduction of the tumour.

In the course of last year Mr. Earle removed at Bartholomew's Hospital a similar tumour, from the left labium pudendi of a female, between twenty and thirty years of age. If we do not much mistake, such tumours are not very uncommon. They grow from the female labium, but, so far as we have seen, they are usually more warty on the surface than in the preceding cases. They attain a large size, and there is usually a free bleeding on their removal. Mr. Lawrence justly remarks that there is this striking difference between the disease under consideration, and the enormous swellings from the male external organs which occur in warm climates—that the latter are the result of more or less violent inflammation.

II. *Tumour occurring in the immediate Vicinity of the Parotid Gland.*

"Mr. Abernethy has described a tumour under the name of *pancreatic sarcoma*, which, he says, 'is made up of irregularly-shaped masses, in colour, texture, and size, resembling the larger masses which compose the pancreas. They appear also to be connected with each other, like the portions of that gland, by a fibrous substance of a looser texture.'* He says, that it may occur as a distinct tumour, though it is more frequent as an affection of the female breast; and he adds, that he has preserved no notes and does not distinctly

* "Surgical Observations on Tumours, p. 34."

recollect any case of a tumour of this structure occurring in a distinct form.* The only example that he mentions, with the exception of some instances in the female breast, is that of a man 'with three diseased lymphatic glands, each of the size of a very large plum, situated beneath the basis of the jaw upon the mylohyoideus muscle.† I have seen many instances of tumour approaching in anatomical characters more or less nearly to the description given by Mr. Abernethy of the pancreatic sarcoma, situated close to the parotid gland and near to the angle of the lower jaw; and I have once seen a similar swelling under the basis of the jaw close to the submaxillary gland. The question naturally arises whether the peculiar character of these growths can be referred to their local situation? Whether they derive their resemblance to the structure of the salivary glands from the circumstance of being formed near to them? I think that there is as much analogy in configuration and structure in this case, as we see in any instance between an accidental production and a natural part; and I have not met with a similar tumour in any other situation except in the instance related in Case V., where the new growth occupied the angle of the mouth and side of the lip, and therefore was not far from the parotid.

These swellings have an uneven, knotty, or lobulated surface, as if they were made up of masses more or less distinct. They are firm; sometimes as hard and incompressible as the most dense scirrhus swelling of the breast; sometimes not quite so hard, but still firm. They are loosely connected to the surrounding parts, and therefore easily moveable: this character they retain, however long they may have existed, and are thus distinguished from scirrhus, with which they might be confounded if the mere circumstance of hardness were attended to.

They form and grow without any pain, increasing slowly, so that at the end of five, six, or more years, the tumour may not exceed the size of a walnut. I have not seen it larger than an orange; indeed the complaint causes so much inconvenience and deformity by its bulk, that patients usually submit to an operation before it has attained this size. It is not painful on pressure.

When the tumours of the least firm kind are cut through, they exhibit a very light brownish yellow tint, and an obscurely lobulated arrangement. The colour resembles that of scirrhus, but the texture is less hard and tough; it is softer, and instead of being hard and unyielding, it will break short off. The harder growths are very like scirrhus in density, toughness, and colour: they creak under the scalpel, and sometimes exhibit a few bony particles. Occasionally there is a partial admixture of coagulated blood, in streaks and patches, with the usual texture of the tumour, so as to lead to an apprehension that the disease might be of malignant character.

In some instances the affection has commenced about, or previously to the twentieth year; in others it has appeared later. The swelling has been on the left side in all cases I have seen; and close on the parotid in all but two, having been in contact with the submaxillary gland in one of these, and situated in the left angle of the mouth and side of the lip in the other." 20.

Mr. L. has always found these tumours innocent, and extirpation by the knife has been successful in every case, excepting one which was operated on by Mr. Macilwain, and which ended fatally from erysipelas. Mr. L. recommends an early operation. The tumour never becomes adherent to the skin nor to the parts beneath, but remains quite loose and moveable throughout. Mr. Lawrence relates five cases. We will give a sketch of them.

* Surgical Observations on Tumours, p. 43. † Ib. p. 35.

Case 1. The patient was a male, aged 22 ; the tumour of the size of a large walnut, situated below the left ear, and extending deeply between the mastoid process and jaw. It was dissected out. Partial paralysis of the left side of the face ensued.

Case 2. Mary Bray, æt. 34. The tumour was larger than a hen's egg, seated immediately behind the angle and ramus of the jaw. It had commenced seven years previously. Mr. L. removed it. There was profuse bleeding. Both in this and the preceding case, a small slice of the parotid gland was removed with the tumour. The surface of the tumour was tuberculated, and covered by a thin capsule ; the substance compact and firm, approaching in colour and consistence to the softer forms of scirrhus, slightly lobulated on its section. The patient left the hospital well on the 22d August.

Case 3. A female, aged 45. The tumour as large as a middle-sized walnut, connected by loose cellular tissue to the parotid ; it had existed three years. On section it was not lobulated, resembled cartilage, was very tough, cut with difficulty, and a little boney matter was detected on scraping its cut surface.

Case 4. Mr. R., æt. 40, 1826. He had a large swelling over the left side of his lower jaw, irregular, with a prominent knot in front, unattached to the integuments, generally moveable, except at basis, rather elastic. It had appeared eight or ten years previously, and increased slowly without pain or inconvenience.

" An incision was carried over the swelling, from the chin to behind the ear, of which the lobulus was considerably elevated by the tumour: a perpendicular incision along the cheek joined this at right angles. The tumour was quickly denuded on its external surface and sides, but it adhered more firmly at the base, and many arteries were divided in detaching it. I could not separate it in the middle, as it went obviously behind the jaw ; I therefore cut it off, and in so doing opened a central cavity, from which fluid escaped. This, I believe, was clear, yellow, and of watery consistence ; but as it mixed with the blood, which was flowing in abundance from numerous arteries, its appearance and nature could not be accurately ascertained. After tying some arteries, I removed from behind the jaw what seemed to be the remainder of the disease ; that is, a portion of a cyst with thick sides, which, when fitted to the part previously removed, completed the cavity. There still, however, remained a dark, livid, bloody substance, of spongy texture, going inwards behind the lower jaw. On its front edge the external carotid was beating, completely denuded for about an inch. On examining the margin of this spongy part, I found a thin white cyst, connected by loose cellular tissue, which I dissected and separated cautiously ; but I could not get behind it, and I found the internal carotid beating on its posterior margin. The mass broke down readily under pressure with the finger, which passed behind the pharynx, between it and the spine, to the middle of the neck. I broke away what would separate easily; the fragments thus removed were dark reddish or brownish, soft, and friable. After the operation, it was observed that the mouth was drawn to the opposite side, and much distorted.

The tumour was of tolerably firm texture, with a large central cavity ; and the sides of the latter were smooth. In colour, which was a light yellowish brown, or light am-

ber, and in general appearance on a section, the texture resembled scirrhus; but it was not so compact or tough. It was invested with a thin but firm white capsule. Towards the cavity, the texture gradually changed into a red and bloody substance. No communication could be ascertained between the interior of the cavity and the spongy prolongation behind the ramus of the jaw." 26.

The structure of the tumour was suspicious. The patient however recovered in about a fortnight, and has remained well to the present time. There is some paralysis of the side of the face.

Case 5. A lady, aged 19. The tumour was of the size of a large walnut, and occupied the left side of the upper lip and corner of the mouth. It was quite loose, only covered towards the mouth by the mucous membrane, which was partially everted and exposed to the air. Mr. L. removed it from the inside. The young lady was well in two days.

"Mr. Abernethy seems to doubt whether the swellings in the female breast, which he mentions as illustrations of his pancreatic sarcoma, are new productions, or changes of structure either in the mammary gland or some adjacent lymphatic glands. They obviously belong to the former class, or that of new growths, being generally loose in their situation, surrounded by a distinct capsule, and exhibiting a structure which, although analogous to that of the gland in which they are more or less imbedded, is yet clearly distinguishable from it. They have been well described and delineated by Sir A. Cooper, in his 'Illustrations of the Diseases of the Breast,'* under the name of chronic mammary tumour. They differ from the swellings just described by being much softer and looser in texture, and more distinctly and minutely lobulated throughout: they never exhibit the scirrhus hardness of the others. Again, they are often painful, sometimes causing severe suffering. In this latter respect, as well as in their anatomical characters, they are obviously assimilated to the part in which they are produced." 29.

III. On Difficulties in the Diagnosis between innocent and malignant Growths.

Mr. Abernethy described a disease under the name of "tuberculated sarcoma," and conceived it "to possess a very malignant nature." Mr. Lawrence has met with a case where such malignancy does not appear to have existed.

Case. A tumour appeared spontaneously and increased rather rapidly in the left thigh of a gentleman aged 27. Four eminent surgeons of London refused, in consultation, to operate. He applied to Sir W. Blizard and Mr. Lawrence.

"We found him with a tumour of elastic feel, undefined in its circumference, about four inches in diameter, with the skin shining and bright red, on the anterior and inner part of the left thigh, a little above the knee. There was a firm indolent swelling, about as large as a hen's egg, imbedded in the soft parts, at the back of the pelvis, and a similar one in the back, near the spine; one as large as a nut over the left eye, and several smaller ones just under the skin in various parts. All the smaller productions had

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* Chapter IV. plates 6 and 7.

shewn themselves subsequently to the appearance of the large tumour in the thigh. The patient was almost worn out by pain and want of rest; he was excessively emaciated, with profuse fetid perspiration." 32.

Mr. L. considered the case hopeless, but Sir W. Blizard amputated the thigh two days afterwards, (March, 1819,) and half a year after the first appearance of the swelling. The patient recovered. In 1825 the tumour in the eyebrow was removed. In December, 1828, Mr. L. removed a tumour in the forearm, situate between the ulnar flexor and the bone, and closely adhering to the nerve. The tumour was of firm texture, but not so hard as scirrhus. In December, 1830, the gentleman re-applied with a tumour, the size of a goose's egg, imbedded in the stump. Mr. L. removed it, and in operating found that it was prolonged towards the tuber ischii. The tumour consisted of one of the flexors of the knee, converted into a tough fibrous texture of light brown tint. The wound healed. The pelvic and dorsal tumours remain nearly as they were twelve years ago. Several small subcutaneous knots can be felt in the arms and head, by passing the hand firmly over the surface; but they are less than when the thigh was amputated. There are a few small softish cutaneous growths in the face. The appetite, health, and strength are tolerably good; but there is of late increase of suffering. Strange sensations, sudden dartings and shootings occasioning convulsive movements, and compared to the effects of electricity, are often experienced.

We know not that any remarks can be made on this case, farther than would naturally occur to the well-informed reader from the perusal of the facts.

"Another source of difficulty in deciding on the nature of tumours and the question of operation is found in the circumstance that productions of dissimilar character may be combined in one morbid growth. This may occur in swellings developed in the soft parts, and striking examples of it are sometimes seen in the tumours of bones. From the interior of these organs, more especially of the femur and tibia, there may be produced growths of the medullary kind, which are decidedly malignant, or of the fibrous and osseous description, which are of an innocent character; or of a third kind, in which the two former are blended together. All these productions pass under the unmeaning and vague term of osteo-sarcoma, which it would be better to banish entirely from medical nomenclature. If we speak of fungus hæmatodes, melanosis and cancer of bone; of fibrous and osseous growths, &c. our description may be rendered clear and intelligible, and rational rules of treatment may be laid down." 35.

Case. E. W. æt. 30, admitted into Bartholomew's Hospital, June 30th, 1831. There was a tumour nearly as large as her leg, occupying the upper part of the left leg, just below the knee. It was fixed to the tibia—generally firm—in some parts of bony hardness, in others soft and elastic—presenting in front smooth rounded masses, separated by slight depressions—the skin generally healthy, but in front of the head of the tibia thin and livid, and displaying a sloughy ulcerated excavation as large as a half-crown piece. This had been produced by caustic, and from it blood had flowed occasionally, once to the extent of a pint. The tumour had begun in December, 1828. During her pregnancy in 1829 it was stationary; in 1830 it became much larger, and occasionally very painful.

The thigh was amputated on the 2d July. On the 11th August the stump was healed, and the patient left the hospital.

The tumour arose from, and was inseparably connected with, the upper part of the tibia, which seemed to expand into the morbid growth. On section the tumour was seen to consist partly of tough fibrous texture, with bone plentifully deposited in it, partly of medullary substance. It contained numerous cells, filled with transparent yellow fluid, and some containing a small portion of coagulated blood adhering to the surface. Nearly the whole exterior of the swelling, the greater part of the septa between the cells, and the surfaces of the latter were made up of the fibrous and osseous texture; the nucleus of the tumour was composed of the medullary substance. The joint was not penetrated.

"In the cases, which I have seen, of simply medullary or cerebriform growths originating in bones, the progress of the disorder has been much more rapid than in the instance just related; the origin and increase of the morbid production have been attended with pain, generally considerable, and occasionally very severe, with interruption of rest, and more or less disturbance of the circulation and digestive organs. The following case, which I relate in illustration of the differences just mentioned, is interesting in other points of view. I may add that in a man, twenty-two years of age, whose thigh was amputated in St. Bartholomew's Hospital last summer by Mr. Earle, on account of a large medullary tumour growing from the femur, five months only had elapsed from the commencement of the disease, which had been attended with great pain, impaired health, and loss of flesh." 39.

Case. Mr. R., in Christmas, 1824, felt a pain in his knee, which was aggravated by exercise, and continued to increase. In February, 1825, he consulted Mr. Lawrence. There were then slight fulness below the knee, slight general swelling, and a little redness about the head of the tibia. Leeches, &c. were prescribed. In March he returned. There was now an elastic tumour between the bones and below the knee, the pulsation of both tibial arteries was suppressed, there was much constitutional disturbance. In the interval between his first and second visit pulsation had been felt in the swelling. The swelling increased rapidly, and the pulsation of the tibial arteries, in the lower part of the limb, returned. The anterior prominence being very soft, a puncture was made; blood only flowed; a bleeding fungus protruded, and there was slight enlargement of the inguinal glands. Amputation was performed. Mr. R. went on well till the night of the 6th day, when he suddenly died from hæmorrhage from the wound.

A medullary tumour occupied the head of the tibia, and had extended forwards and backwards, irregularly between and in the muscles. It had protruded from the bone just at the division of the popliteal artery, and the passage of the anterior tibial through the inter-osseous ligament, which, Mr. L. observes, accounts for the pulsation in the tumour at an early period, the suppression of the tibial pulse when the growth was confined by the fascia of the leg, and its subsequent return when the fascia had given way. An obsorbent gland, near the artery, and the inguinal glands, were diseased, as were one or two glands at the side of the pelvis. The end of the femoral artery was quite open. There was a soft medullary tubercle in the thin edge of the liver.

IV. ON THE TREATMENT OF SEROUS CYSTS.

"The essential differences that we observe, in the structure of cysts, and the nature of their contents, would lead us to suppose that the same principles of treatment cannot be applicable to all cases of encysted tumours. In some instances the cyst is like the thinnest serous membrane, and contains a clear fluid of watery consistence, in others it is a fibrous structure more or less compact and thick, perhaps with a cuticular or horny lining, or with portions of cartilaginous or osseous texture, and containing either a thick fluid, or from that to the most compact kind of fat or other matter. The fibrous cysts must be either left alone or completely removed by the knife. To irritate them, either by seton, by stimulating injections, or by incision and escharotics, is not only ineffectual as a means of cure, but very dangerous. Measures of the latter kind may be adopted without much risk in the serous cysts. We may make an incision into the swelling and keep it open; inflammation and suppuration of the membrane will ensue, and will lead to permanent obliteration of the cyst. Excision is applicable to the fibrous cysts, which are generally seated in the subcutaneous stratum of adipous texture; while the other mode of proceeding is more convenient in those of serous structure, which are seated more deeply, in the intermuscular cellular tissue, and generally covered at least in part, by some superficial muscle. These, when neglected, often become so extensive, and are so closely connected to blood-vessels and other important parts, that complete excision would be either extremely difficult or impracticable." 43.

Case. A lad, æt. 14, had a swelling on the left side of the neck, which had commenced eight years previously. It was nearly as large as the fist, situated under the sterno-mastoideus, extended from the sternal end of the clavicle to the ear, passed to the side of the trachea, larynx and œsophagus in front, and towards the ligamentum nuchæ behind. It obviously contained fluid.

On Sept. 17th, 1830, Mr. Lawrence made an incision, between two and three inches long, over that part of the swelling behind the sterno-mastoid, and laid bare the cyst, punctured it, and let out a few ounces of light-brownish, watery fluid. The denuded portion of the cyst had a smooth surface, and in it were other smaller cysts, most of them communicating with the general cavity, which was generally smooth. The carotid artery was felt through the thin membrane of the cyst, in the whole length of the neck, as if it had been dissected. Mr. L. introduced four slips of lint, spread with spermaceti cerate, into the cavity, leaving their ends out at the wound, which was lightly covered with a similar dressing. A good deal of tendency to inflammatory action occurred after the operation, and antiphlogistic treatment was necessary. The cavity was obliterated at the beginning of November, when the patient left town. The patient continues well, without a vestige of the former disease.

Mr. Lawrence refers to two cases related by the late M. Delpech. The cysts were very extensive. M. Delpech cured the disease by puncturing the cysts, and introducing bundles of charpie, in such a manner as to come in contact with every part of the internal surface. One case was cured by the 19th day, the other by the 40th.

Case of Cyst in the Orbit, containing Hydatids.

C. R. æt. 42, admitted into the London Ophthalmic Infirmary, Jan. 3d,

1820, with protrusion of one eye from the orbit by a tumour, situated between the upper and inner portion of the eyeball and the lid. The upper lid was greatly stretched, the lower everted, the conjunctiva of the globe thickened, the iris motionless, vision gone. The tumour was firm, and apparently fixed to the orbit; it fluctuated obscurely. It had commenced seven years previously. He had applied at the infirmary when the disease was less advanced, and when only a small firm protuberance could be felt obscurely under the superciliary arch. He then refused to submit to an operation.

Mr. Lawrence made a puncture into the most prominent part of the swelling; a dessert-spoonful of clear watery fluid escaped. Two days afterwards a soft white substance appeared in the puncture; it was removed—it was a hydatid, and a few others escaped when pressure was made on the swelling. The whole collection was cleared out by enlarging the puncture, and injecting water forcibly into the sac. Inflammation and suppuration of the cyst followed, and in about a month the opening closed, the eye returning to its natural situation. In March, a little motion of the iris and slight perception of light had returned.

Professor Delpech relates two cases of serous cyst in the orbit, one containing clear fluid, the other a large hydatid. M. Delpech introduced charpie into both, practice which Mr. Lawrence criticises in the instance of the hydatid, as being unnecessary, and likely to excite too much inflammation.

The profession will feel obliged to Mr. Lawrence for this paper. The publication of the experience of men who have seen much, and particularly of those who, like Mr. Lawrence, are well able to reason on what they see, is always valuable. Perhaps Mr. Lawrence's example may induce others to contribute towards the elucidation of a subject, the importance of which is commensurate with its difficulties.

V.

On some Effects of Inflammation of the Membranous Lining of the Larynx, &c. &c. By *John Wood*, late House Surgeon to St. Bartholomew's Hospital.

[Med. Chir. Trans. Vol. XVII.]

This is a very long paper, exhibiting very creditable research and much judgment on an important point of medical surgery. Laryngitis is not uncommon, and every one knows what a fearful and formidable inflammation it is. In many cases it comes on almost insensibly and proceeds slowly, and is not usually complicated with inflammation of the tracheal or bronchial lining, or with much symptomatic fever. It is attended with more or less dysphagia, by which our author thinks it may be distinguished from croup. Pathologically too, he avers that it differs from the latter disease, inasmuch as the change of structure consists of interstitial deposition,

and not of effusion, in the form of an adventitious membrane upon the surface of the inflamed mucous membrane.

"The distinctions of croup from other forms of inflammation of the larynx, and an accurate knowledge of the seat of obstruction in each instance, are essential to successful treatment of the different affections. General bleeding, so highly beneficial in croup, seems often to have aggravated the sufferings, and hastened the death, of those affected with œdema of the glottis. Had the pathology of croup been better understood, laryngotomy would never have been declared to be the most efficacious means of relief." 142.

It is often impossible to determine, during life, whether acute inflammation has caused serous effusion into the submucous tissue, or whether this is swollen and thickened by gradual interstitial deposition.

"It appears to me that the term SPASM is often used unwarrantably to explain the deaths of persons who have shewn symptoms of diseased larynx, and that the common notion of spasmodic asphyxia is dangerous, as it leads to the use of opiates and antispasmodics in disorders essentially inflammatory, and only to be treated with success by those who early discover and appreciate their nature and tendency. Dissection, certainly seldom discloses in the larynx a complete obstacle to the transmission of air: this is not necessary to produce death. If the passage be gradually narrowed, so as to prevent at each inspiration the ingress of a proper quantity of air, the properties of the blood are consequently altered. The circulation of the fluid in an unhealthy state, produces a general debilitating effect; this is augmented by the fatigue resulting from the increased exertions which breathing requires. The imperfect expansion of the lungs causes in them a state of vascular conjestion and consecutive serous effusion, which impedes the return of blood from the head, and gives rise to turgescence of the vessels of the brain with effusion into the cerebral cavities. 'Although,' says Dr. Cheyne, in his remarks on croup, 'apparently the first of the vital functions which is arrested by respiration, yet this seems to arise from a want of muscular strength in consequence of failure of the sensorial power, the invariable result of defective supply of pure arterial blood in the brain.' These patients, I believe, die more frequently from cerebral disorder and gradual exhaustion than from sudden or spasmodic suffocation." 147.

Our author questions the propriety of the term "spasmodic asthma," concluding that the dyspnœa observed in the paroxysm results from "vascular conjestion of the lungs, and particularly of their mucous membrane." He acknowledges that when a permanent lesion exists, it is difficult to explain how the symptoms should be only occasional, the intervals of the attacks being quite free from suffering. Irregularity of the circulation, he thinks, offers a better solution of the difficulty than spasm.

"In whatever textures inflammation occurs, we notice periods of exacerbation and remission. May not, then, the occasional aggravation of the symptoms in laryngitis be as fairly ascribed to a temporary increase of the inflammation as to an extraordinary action of the muscles of the larynx? Are the distressing paroxysms in peritonitis ever attributed to spasm of the abdominal muscles? In tetanus, or in hydrophobia, where violent spasms of the throat are remarkable, do they ever produce asphyxia? To conclude these desultory remarks on spasm, I have only to say, with the late Dr. Albers, of Bremen, 'Neque adhuc vidi tracheitidem spasmodicam.'"* 154.

* Lib. cit. p. 153.

Several cases of the disease, as occurring in St. Bartholomew's and elsewhere, are detailed, but most of them have appeared in the periodicals at the time they took place. We come therefore to the second part of the paper.

On Bronchotomy.

Obstruction to respiration, in cases of the above description, generally finds relief from bronchotomy; but where the obstruction is in the bronchial tubes, the operation is necessarily useless, if not worse. Whether bronchotomy may ever be serviceable in certain affections of the larynx, which have been termed spasmodic, cerebral, or sympathetic, our author does not pretend to determine, nor has he found any thing very satisfactory in his researches among written testimonies.

"Dr. Albers, of Bonn, speaks of a state of disease, observable particularly in girls who are subject to irregular menstruation, in which the larynx is so irritable, that, on the slightest occasion, and usually towards evening, it becomes affected with spasm, which is to be quieted by nothing, not even by musk and opium. It is attended with a dry cough, which will continue for two or three hours without interruption, and not cease until the patient falls into a swoon, or even into convulsions. 'I have seen,' says Dr. Albers, 'these symptoms regularly repeated every evening for two months together. In this case, as also in every instance where such spasm is produced, should not tracheotomy be employed to remove this troublesome and highly dangerous condition? Particularly as this affection continues to be regularly repeated even when the menstrual functions are performed, and as the patient is liable every moment to be suffocated."* 170.

Mr. Wood says he would prefer, in such cases, a trial of some powerful revulsive agent, such as sudden immersion in cold water, the shower-bath, croton-oil, or an emetic. The propriety of bronchotomy, in laryngeal disease, will much depend on the state of the lungs, which must be determined by an accurate investigation of the history and phenomena of the disease. We extract the following passage, which is founded on the authority of Bonetus, though we have great doubt of its accuracy.

"There are, perhaps, no symptoms that more frequently puzzle practitioners than those which seem to depend on affections of the larynx. Disease of the liver is sometimes attended with symptoms of cynanche laryngea, although no morbid appearances are presented in the larynx after death."† 173.

We verily believe that there is not in medicine a more widely extended error than this belief in cough and other affections really appertaining to the chest, being sympathetic of liver disease and dyspepsia. We have endeavoured, on many occasions, to point out the error, and the serious consequences thence resulting, but in vain. The evil appears on the increase rather than on the wane. As example is more potent than precept, we shall briefly allude to one or two melancholy cases illustrative of this point. There are some medical practitioners, not one hundred miles from Tunbridge, who can vouch for the truth of the following fact. A fine young gentleman became affected with cough, and apparently slight pul-

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* Graefe and Walther's Journal, Bd. XV. Heft 4.
† Bonetus Sepulchretum, Tom. I. Lib. II. Sec. 1, Obs. 4.

monary affection. He brought up a little blood, and one of the most eminent of our metropolitan surgeons, happening to be in the neighbourhood, was consulted. He pronounced the complaint to be merely hepatic congestion, and ordered calomel, as a matter of course. The symptoms not giving way, the patient was brought up to town, when a very superficial examination of the chest shewed almost the whole of the left lung disorganized! He died a few weeks afterwards, and dissection proved the truth of the diagnosis. The family has been left in the greatest distress, and the false diagnosis of the surgeon has damaged his reputation through a very extensive circle of society.

This day (10th of January) we saw a young lady just arrived from the country, with "stomach-cough," of seventeen months standing. Not the slightest idea was entertained by some metropolitan and provincial physicians of any disease in the chest. Yet a pupil at any of our great hospital might have discovered the existence of chronic inflammation of the lungs to an extent which now leaves little hopes of recovery. Mutton-chops for breakfast—meat and wine for dinner—bitters, nay tonics, were employed for many months to reduce the "stomach-cough"—with, we need hardly say, no benefit—but, on the contrary, with the loss of time, that can never be compensated for by any antiphlogistic measures! We could fill a whole number of our Journal with similar cases; but they would make no impression on the public—and "stomach-cough" will have its way.

Mr. Wood notices certain errors of diagnosis of a different kind.

"A child, eight months old, died with symptoms of cynanche laryngea, which were evidently occasioned by the pressure of an abscess in front of the thyroid cartilage, and bounding nearly the whole extent of the os hyoides. The internal lining of the air-passage was found healthy. The narrator of this case regrets, with much propriety, that the abscess was not discovered before death.

Mr. Lawrence has related the case of a young woman, under twenty years of age, who died suffocated from an aneurism behind the sternum, pressing on the trachea. Her symptoms were so deceptive that it was supposed bronchotomy would be required.

The sixth case detailed in the important Memoir of Bayle, is that of an aneurismal tumour, compressing the left bronchia, and simulating œdema of the glottis. 'I did not' says Bayle, 'see this case, but am persuaded that I should have taken the disease for œdema of the glottis.'*

I know an instance where this mistake led to the performance of tracheotomy, which was attended with bursting of the aneurism into the trachea: and, from a preparation which I lately saw in the College of Surgeons, it appears probable that the same unexpected event must have annoyed another practitioner. In this preparation there is an artificial opening in the larynx; and just above the bifurcation of the trachea another opening is seen to communicate with the cavity of the ruptured sac of an aneurism.

Dr. Hope affirms, that bronchotomy has several times been performed with the view of obviating suffocation occasioned by aortic aneurism.†

It is unnecessary to multiply instances to prove the importance of minute diagnostic research. The obscurity in which the diseases of the larynx are often involved, and the

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* Nouveau Journal de Médecine, Janvier, 1819, p. 22.
† The Cyclopædia of Practical Medicine, p. 110.

serious errors of practice to which an ill-founded opinion may lead, should induce us to investigate with great care every disturbance of respiration, especially where the source of suffering seems to be in the larynx. Before tracheotomy is undertaken, the actual seat of the disorder must at least be determined. The co-existence of any important pulmonary lesion will of course considerably interfere with the prospect of a favourable issue. When we are not, however, to be deterred from operating either from the supposition or assurance that the lungs are simultaneously disordered with the larynx. If the cure of the disease were therefore out of the question, the operation, by lessening the frequent necessity of coughing to get rid of the increased mocous secretion, and the consequent fatigue to the lungs, at a time when their unhealthy condition requires all possible repose, might yet obtain for the patient alleviation of distress and prolongation of life." 176.

The general rule has been to have recourse to bronchotomy only in cases of extreme danger of suffocation, without reference to the benefit that might result from quietude of the parts, when in a state of disease. Mr. Lawrence has pointed out the advantages to be expected from an early operation—and the Germans claim the merit of proposing and performing it in chronic laryngitis, where there was no immediate danger of life. Mr. Wood considers that even ulceration is good cause why bronchotomy should not be performed. The author prefers the removal of a portion of cartilage to the introduction of a canula. This removal may sometimes be easy, where there is not much infiltration of the parts; but, we apprehend, that the canula will generally be necessary, not only at the time of operating, but for some time afterwards. Mr. Wood has searched for all information on the subject of bronchotomy; but as the result is a compilation of what was already known, we must pass it over. We therefore proceed to the third part of the paper.

Wounds of the Throat.

These deserve to be considered among the causes of laryngeal inflammation and its serious consequences.

Case. "Thomas Tibbett, aged fourteen, having been detected in thieving, and roughly treated, cut his throat with a razor on the last day of January, 1831, and was immediately brought to St. Bartholomew's. There was a gaping transverse wound of the integuments about two inches in length. The windpipe was wounded in two places: one incision having been made through the upper part of the thyroid cartilage, and the other through the crico-thyroid membrane. He had lost very little blood, and no vessels required to be tied. The parts were approximated by keeping the head bent forwards, and no attempt was made to unite any part of the wound by ligature. As fluids which he attempted to swallow, came freely out of the wound, inducing an opinion that the pharynx was injured,* and as deglutition excited cough, and was attended with

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* "That the escape of fluids through a wounded windpipe, during deglutition, is no sure criterion of a breach of structure of the gullet, is proved by two cases of self-murder recorded in the twelfth volume of the Lancet, and by the occasional occurrence of this symptom after the performance of bronchotomy for disease of the larynx."

the inconvenience of separating the several cartileges, he was fed with milk by the aid of an elastic tube, passed through the nostril; to this operation he quietly submitted, as it was less troublesome than swallowing, and his appetite was keen. At first there was some frothy mucous discharge from the wound, with noisy and sibilant breathing; but the patient suffered little. On the 20th of February he still breathed through the opening, but did not require to be fed, and was able to walk about in the ward. When the prospect of recovery was most favourable, difficulty of breathing supervened. The upper wound of the larynx, which was much the larger one, being sufficient to allow a free entrance of air, the obstruction was considered to be caused by inflammation lower down in the windpipe, and leeches were accordingly applied. He died on the 27th of February.

The following appearances were found on dissection.

The lateral borders of the epiglottis were approximated; the membrane covering it and the neighbouring parts was swollen, and the glotus much contracted. The upper wound of the larynx just admits a large bougie. Its communication with the pharynx was nearly obliterated by cicatrization. The lower wound was healed, and scarcely recognizable externally, but clearly indicated within by a wrinkled and indented appearance of the lining membrane. Between the two wounds the chordæ vocales were involved in a fleshy swelling (èpaississement par hypertrophie,) through which a female catheter passed without difficulty. The tracheal membrane was rather more vascular than usual. There were extensive old adhesions of each pleura, with depositions of gritty and cheesy matter in the lungs and bronchial glands." 197.

It is probable, as Mr. W. observes, that this poor boy's life might have been preserved, had a tube been opportunely introduced through the wound so as to traverse the seat of obstruction. Tracheotomy, also, might have effected the same object.

As it is not safe to draw inductions from individul cases, Mr. Wood has been at some pains to examine surgical records for instances bearing on the present subject. We shall introduce two or three abridged cases in illustration.

Case 1. "A workman, aged thirty-six, pursued for debt, and resolved to finish a life of trouble, cut his throat with a razor between the os hyoides and thyroid cartilage, and was conveyed to the hospital at Toulan on the 30th of Dec. 1819, four hours after the accident. The lips of the wound were brought together by adhesive straps, and a compress was applied; but ere long hemorrhage ensued, and it was necessary to tie three small arteries. The wound was again dressed, and the head inclined towards the chest. The next day the pulse was excited, but there was no other unfavorable symptom. Blood was taken from the arm, and soothing drinks were prescribed. On the fifth day alarming symptoms suddenly appeared; fits of imminent suffocation, agitation, heat of skin, paleness of face, tumefaction of the neck, complete loss of voice, hissing and very laborious inspiration, and less difficult expiration. A large bleeding was practised from the arm; fifteen leeches were applied on the neck, and sinapisims on the feet; but the paroxysms increased, and the patient died in the evening.

Examination. The upper part of the thyroid cartilage had been cut, and the hyothyroid membrane divided. There was considerable echymosis of the fold of membrane which unites the epiglottis to the arytænoid cartilage of the right side. The membrane of the epiglottis, and of the upper part of the larynx and its ventricles, was œdematous. The serosity was easily expressed from the swollen membrane. The lungs were the seat of a slight sanguineous infiltration."

Case 2. "A Swiss solder made with a knife a triangular wound of his throat, about

two inches long, at the upper border of the thyroid cartilage. He was immediately taken to the military hospital at Toulon. There was scarcely any bleeding: the wound was therefore at once dressed with strips of adhesive plaster, and covered with charpie and compresses, which were confined by a circular bandage. The patient was instructed to keep his head bent forwards. In four hours hemorrhage took place. When the dressings were removed the blood flowed freely, but the bleeding orifices could not be found. A piece of agaric was applied, and the wound dressed (or rather smothered) as before. After an hour the charpie was again soaked in blood; but as this did not trickle down the neck, the dressings were not disturbed.

A soft blueish swelling now formed at the base of the jaw on the left side. His breathing became very difficult, and the face injected; suffocation menaced; he frequently raised his hands to tear away the dressings. As the bandage seemed too tight, an ordinary chin-cloth was substituted. The wound ceased to bleed, and the patient felt relieved; but he continued restless and agitated, and often assumed the sitting posture, which seemed to give him ease. The difficulty of breathing soon increased; and he died six or seven hours after his entry into the hospital.

Examination. The course of the wound was occupied by clots of blood, which had accumulated in the situation of the swelling observed during life. All the cellular tissue of the anterior cervical region was infiltrated with blood, which had come principally from a wound of the laryngeal branch of the right superior thyroid artery. There was considerable œdema of the membrane investing the arytænoid cartilages; and the chink of the glottis was nearly obliterated by the swelling. The veins of the encephalon were more distended than natural, and the lungs were congested."

Case 3. "A young woman, who had divided the larynx just beneath the thyroid cartilage, went on well till the fourth week, when difficulty of breathing came on, and increased during twenty-four hours till death. The cavity of the windpipe above the wound was filled up by granulations of flesh: and when the external opening became so small that the lungs could not be supplied with air from that source, a difficulty of breathing commenced, and at length the patient was suffocated by the very efforts which Nature made to heal the divided parts." 203.

Some cases are next quoted from Dr. Rust, to which are appended some observations on the subject by the same author. These last, being concise, we shall give in the words of the German professor.

"The principal danger of such wounds is to be sought in the subsequent inflammation of the windpipe and lungs. Large doses of calomel, friction of mercurial ointment in the neighbouring parts, cold lotion to the neck, active local as well as general bleeding,—in a word, the reduction of life to its lowest pitch, are the most certain means to prevent this fatal inflammation. I was never fortunate enough to save any one thus wounded, unless where the powers had been almost exhausted by the accidental or prescribed loss of blood. All injuries of this sort have proved fatal when immediate assistance was afforded; and usually the quicker, as the loss of blood was smaller and the patient's strength promised a longer duration of life. Of the latter class, several unfortunate sufferers have died, when the windpipe has only been partially divided: whereas I have this day, in the hospital, perfected the cure of such a patient, even under the persistance of symptoms threatening danger, by means of venesection for three consecutive days, so as to produceainting each time, together with leeches on the neck, large doses of calomel, and a spare diet.

The uniting of the divided windpipe by suture is not so essential as the ancients supposed, nor so objectionable as modern writers represent. Here, as in general, the mid-

dle way is the best, and a single loop appears as necessary in many cases to prevent the descent of the lower portion of the tube, as the employment of three or four sutures is superfluous and prejudicial.

Further observations and experiments must determine whether, as the above cases seem to teach, it is better, instead of immediately closing by sutures the external wound, to keep it open either totally or at least partially, until the wound of the windpipe and other deep parts is healed, so as to allow of free vent for any accumulation of pus or mucus." 216.

To the foregoing observations of Dr. Rust, Mr. Wood has appended some of his own. The whole paper is indicative of research and judgment. It was far better fitted for an article in the Cyclopædia of Practical Medicine, as an avowed compilation, than as an original article in the Transactions of the Medico-Chirurgical Society. It is doubtful whether the author may consider this as a compliment or not. If he be ambitious of the fame of originality, he will not thank us for the remark:—If he covet the more humble, but perhaps more useful, appellation of DILIGENT AND JUDICIOUS COMPILER, he will be conscious that he deserves our praise, quoad compilation, and possibly may be contented—a rare event in authorship!

VI.

AN ESSAY ON THE STRUCTURE AND FUNCTIONS OF THE SKIN. By *W. Wood*, M.D. Octavo, pp. 172.

THIS is a very intelligent and useful summary of what is known at present on cutaneous physiology; it contains, indeed, little or no new matter, excepting a few experiments on the function of perspiration from the skin and lungs; but as it is of use to have known and established facts, or even what are considered as such, frequently presented to the memory, we shall spare a few lines to mark down some of the leading phenomena which have been observed by the best physiologists. The experiments of Lavoisier and Seguin are very generally considered to be worthy of much credit, on the subject of the cutaneous and pulmonary perspirations; they state that the average quantity lost in 24 hours, is 18 ozs. from the lungs, and 36 ozs. from the skin.

Cruickshank and Abernethy inferred, from some trials in which they kept their hands or their arms for an hour in air-tight vessels, and there ascertained the increase of the weight which the vessels acquired, that the quantity of the skin perspiration was about $2\frac{1}{2}$ pounds in 24 hours. Dr. Wood has repeated many of the experiments, and gives a higher estimate; he supposes the quantity to amount to $45\frac{3}{4}$ ozs. in 24 hours. The estimate given by different authors of the quantity of the pulmonary exhalation have been equally discordant. Hales rates it at 20 ozs.—Abernethy at 9 ozs.—Dr. Thomson, of Glasgow, at 19 ozs.—Menzies at 6 ozs.—our author at 6 ozs. On the much disputed question, whether the skin absorbs or not? Dr. Wood very justly employs the analogical affirmative argument, to be drawn from the skin of lizards and of the other batrachia possessing indisputably the

power of absorption, and that, too, in a high degree (see our review of Dr. Edwards on Life, in our last No.) Nor are we to reject the evidence of Capt. Bligh and others, on the astonishing and most pleasing effects of wetting the surface to allay the thirst and burning, when their fresh water had failed them. Dr. Wood remarks that—

"It is very much to be desired that some experiments were made, in order to determine how far cutaneous absorption, of the kind under consideration, is connected with the properties termed *endosmose* and *exosmose*, discovered by Dutrochet to belong to organized membranes. Since, according to this discovery, when an organized membrane is interposed between two fluids of different densities, there arises a much more copious determination of the thinner fluid through the membrane towards the thicker, than of the thicker towards the thinner, is it not possible that the nature of the fluid placed in contact with the skin as denser or rarer than the blood, or than the serum, may be a fertile cause of variation in the result of experiments, such as are mentioned above?" 53.

That a very rapid absorption of moisture from the atmosphere, either by the lungs or by the skin, takes place in many cases of diabetes, is abundantly proved by the body not losing weight in proportion to the great excess of the egesta over the ingesta:—thus Dr. Dill reports a case, in which the patient, at the commencement of the disease, weighed 145lbs; at the end of five weeks he weighed only 27lbs. less, although the daily excess of urine over the ingesta averaged five pounds; so that 113lbs. of urine must be accounted for by absorption from the atmosphere. The question then arises, does this great absorption chiefly take place at the skin or in the lungs? The much greater extent of the mucous surface of the latter over the former, (calculated by Dr. Monro, 2ndus, to be at least 30 or 40 times as great,) might lead us to suppose that the lungs are the principal organs of absorption; but several potent objections may be stated to this view; thus we know that expired air is in general saturated with moisture, as may be ascertained by merely breathing on a glass, especially in cold weather, which condenses the humidity more quickly; and as this is the case, how can we believe that rapid absorption is going on at the same time from the same surface? Again, the quantity of air exposed to the action of the pulmonary surface in the course of the day must be much smaller than of that which passes in contact with the skin; for not only is the number of inspirations limited, but also the air, when once admitted into the lungs, is confined there, till expelled by expiration; whereas at the skin, there is a constant and unceasing removal of the air, which thus becomes the vehicle for more copious absorption, as well as of more copious exhalation. The remarks of Dr. Wood are so pertinent, that they deserve to be transcribed.

"The very small extent of the skin, as compared with the extent of the bronchial membrane, raises, at first sight, a very strong objection to this assumption. But the quantity of air, and consequently the quantity of moisture, which comes in contact with the skin, in the course of a day, exceeds that which is received into the lungs in a much higher ratio, than the dimensions of the bronchial membrane exceed those of the skin. The great difference between the quantities of air brought to act on these two membranes, in a given time, will appear clearly, by a reference to the difference in the daily watery exhalation of each. The bronchial membrane, so many times more extensive, so plainly adapted to copious secretion, does not yield more than six ounces of watery exhalation to the air in twenty-four hours, while the skin, so moderate in size, and to ap-

pearance so little calculated for copious secretion, yields six times as much, or thirty-six ounces, in the same period. No other cause can be assigned for this difference, but that the air received into the lung, is so limited in quantity, that, notwithstanding its great rise of capacity for moisture, it can take up only this small proportion of the amount, which the ever-changing air, at the surface, carries away with very little addition to its capacity." 61.

Even when we admit that the skin may be better fitted than the surface of the air-cells for the absorption of humidity, the objection may readily suggest itself, is it possible that the air, which is at every moment abstracting moisture from a surface, can, at the same time yield moisture to that surface, in very considerable quantity? We answer, yes; and we assert, that evaporation is constantly going on from wet inanimate bodies, even into an atmosphere loaded with moisture. If we take a deliquescent salt and expose it for some time, it will become quite liquid even in a dry atmosphere; yet it cannot be fairly doubted, that an evaporation goes on from the very first deposition of moisture, just as freely as from any of the surrounding moist or wet bodies, and that the final accumulation of water is not the real measure of absorption, but merely the difference between the entire quantity absorbed, and what had been exhaled in the mean time. If this be granted, it is easily understood how the two processes may be going on at the surface of the skin, and we know that the cuticle is well adapted for the imbition of moisture, its structure and composition being almost identical with those of the human hair, which has been proposed by Saussure, as a delicate hygrometer.

On the subject of the rete mucosum, the various opinions of different authors are shortly and explicitly stated. It is worth while to record what the distinguished comparative anatomist has written regarding it.

"The vascular net-work which is situated immediately over the cutis, occupying its whole surface, is in general of an exceedingly thin texture; it is formed entirely of arterial, venous, and lymphatic vessels, which undergo many complex ramifications and anastomoses. This net-work is spread over the projections situated on the surface of the cutis. The pigment does not perhaps exist in all animals; it forms, at the surface of the vascular net-work, a layer, more or less defined, of slight consistence, semi-fluid, and in effect composed entirely of very minute grains, agglutinated to each other, without any organic continuity between their own particles, or with the other portions of the skin. It is a sort of artificial membrane or depository, which is variously coloured, and which seems to be exhaled by the parietes of the veins. This pigment, and the vascular net-work, are both crossed by the nervous extremities, which meet at the surface of the skin, sometimes under the form of papillæ. These two parts of the skin are those which, since the time of Malpighi, have been known by the name of Malpighi's net-work, *corpus reticulare reticulum mucosum*, on account of the sort of net-work they form, for the passage, not only of the mucous papillæ, but also of the accessory parts. They are both, in my opinion," he continues, "the source of the colouring matter, and the pigmentum is the depository of that matter."* 71.

Lieutaud and Cruickshank were the first who maintained that the rete mucosum is composed of two separate layers.

"When a blister," says Cruickshank, "has been applied to the skin of a negro, if it

* See De Blainville De l'Organization des Animaux.

has not been very stimulating, in twelve hours after, a thin, transparent greyish membrane is raised, under which we find a fluid. This membrane is the cuticle, or scarf-skin. When this, with the fluid, is removed, the surface under these appears black; but if the blister had been very stimulating, another membrane, in which this black colour resides, would also have been raised with the cuticle. This is the *rete mucosum*, which is itself double, consisting of another greyish transparent membrane, and of a black web, very much resembling the *pigmentum nigrum* of the eye."* 73.

We cannot afford space to follow our author into the digression on the varieties of the human race; although interesting, it is certainly quite misplaced in any essay which professes to treat only of the structure and functions of the skin, in the states of health and of disease. The work, however, is intended, we are told, for the general, as well as for the the professional reader.

The second section is devoted to the consideration of the agency of the skin in the production of diseases. It is very generally known, that there is a mutual balance, and equilibrium of compensation between many of the functions of the body, especially between those of the skin, and of the kidneys, lungs and liver. The following remarks are good.

"The degree to which a variation in the supply of blood to one organ can take place without detriment to health, is much extended by that species of sympathy or conservative balance before remarked as existing among the several secretions. Thus, when the determination of blood to the skin is diminished by a cold atmosphere, and the secretion in consequence decreases, an augmented secretion by the kidneys generally arises, so as to prevent the mischiefs which might otherwise result from the accumulation, on the internal organs, of the fluids repelled from the surface. And in some cases of this kind, as was shewn in the foregoing experiments, the watery exhalation by the lungs becomes more abundant when the cutaneous secretion is diminished. Nay, farther, there is great reason to suppose that it is by this same power of accommodation among the secretions, carried to a much greater extent, that the human body is fitted to exist in every variety of climate. Thus, in tropical countries, where the activity of the skin becomes permanently augmented, the kidney becomes a less efficient organ—secreting not merely less watery fluid, but even, if we may judge from the almost complete exemption which the inhabitants of tropical regions enjoy from calculous disorders, ceasing to secrete the sparingly soluble saline matters, by the concretion of which calculi are generated." 115.

And again:—

"It has been ascertained, that the deposition of lithic acid from the urine is greater when the cutaneous perspiration is defective, and that, after copious perspiration, it becomes much less than usual. The perspiration, as was shewn above, is at all times acid; and, though it has not been proved ever to contain lithic acid, it is reasonable to suppose with Dr. Phillip, that, in copious perspiration, that acid is thrown off by the skin, or at least, that the necessity for so abundant a formation of it is superseded, by the larger separation of the proper acid of the cutaneous secretion. Yet, suppose this explanation little satisfactory, the above facts themselves agree well, both with the exemption of residents between the tropics, and with the known liability to stone and gravel of such individuals, in temperate countries, as have a scanty secretion by the skin. A practical inference of much importance is obtained from these observations,—the utility

* Experiments on the Insensible Perspiration.

of a strict attention to keeping up a free secretion from the surface, in persons threatened with calculous complaints." 116.

When cold and moisture are united in the atmosphere, the cutaneous perspiration is diminished in a twofold manner; namely, by the constrictive effect of the cold on the skin, and by the smaller aptitude of the air to take up fluid. And, in this case, there is not the same disposition to re-action as when the cold is dry; principally, as it appears, because the energy of the respiration is impaired by the dampness of the air, which prevents the lungs from throwing off the ordinary amount of watery exhalation. Hence results the well-known prejudicial effects of a cold damp atmosphere on the health. We have long been satisfied that the agency and influence of the functions of the skin, over those of many internal organs, have been neglected and overlooked too frequently in medical practice; and, therefore, forcibly recommend the propriety of inquiry into the state of the cutaneous secretion, as well as of the pulmonary, and of the gastric, biliary, intestinal or urinary discharges, in all cases, especially of chronic disease. In obstinate dyspepsia, in diarrhœa, in atrophy and mesenteric obstructions, in calculous complaints, in phthisical and hæmoptoic tendencies, and in a host of others, not to speak of those which are strictly cutaneous, we have derived the very happiest effects from the continued use of baths, affusion, or sponging, and have been thus enabled, by attention to diet at the same time, to supersede the necessity of much internal medicine. We cannot dilate upon this importont topic at present; but shall content ourselves by directing the thoughts of our readers to the very intimate sympathy and connexion between the states of the skin and of the gastro-intestinal surface, as strikingly displayed by the phenonena of that singular disease "pellagra." They will find some good illustrative cases, and some useful remarks, in the Periscope of our last Number.

VII.

EXPERIMENTAL INVESTIGATION ON THE EFFECTS OF LOSS OF BLOOD. By *Marshall Hall*, M.D. F. R. S. &c.

[Med.-Chir. Trans.]

Dr. HALL, after observing as accurately as possible the effects of hæmorrhage and bloodletting on the human subject, has very laudably turned his attention to experiments on animals, in order more fully to investigate this important inquiry. His objects were, first, to ascertain the effects of loss of blood in health—2dly, in the different epochs of life—3d, the organic changes that resulted from loss of the vital fluid—4th, to fix the rules and limits of sanguineous depletion as a remedial agent. The present paper embraces the subjects of syncope—excessive reaction—gradual sinking—immediate dissolution—the organic changes.

I. Syncope.

This phenomenon is much modified by position, while blood is flowing. It appears to depend on sudden abstraction of blood from the *brain*, according to our author, and the following are his reasons for so thinking.

"The languor of the eye and of the expression; the panting, or sighing, observed in the breathing; the cessation or extreme diminution of the frequency and force of the action of the heart and of the arteries; the loss of appetite; the naucea and vomiting; the debility of the voluntary muscles and the relaxation of the sphincters of the bladder and rectum, all appear to have this origin.

The truth of this remark, in regard to some of these phenomena, is obvious from the influence and effects of posture. The most remarkable of the phenomena of syncope may be renewed, after they have disappeared, by placing the animal in such a posture that the head shall be as much elevated, and the other parts of the body as much depressed, as possible; the countenance and the eye languish, and the head droops; the mouth then opens and the respiration becomes panting; if at this moment the ear be applied over the region of the heart, its action, distinctly perceived before, *is found to be either suspended, or so feeble as scarcely to be heard.* On reversing the position, the animal is immediately relieved, it raises its head and looks about, the respiration, although impeded by so constrained a position, is greatly restored, and the beat of the heart *becomes instantly perceptible*, and in a short time loud and strong." 253.

Now we are of opinion, that the whole of the phenomena of fainting depend, not on the abstraction of blood from the *brain*, a thing which cannot, in fact, be done, but on the inability of the heart itself to continue the circulation, and thus to supply the brain and all other parts with a *current* of blood. The effects of position on the heart itself are more easily explicable than on the brain. When the whole body is horizontal, the heart circulates the blood more easily than when any part, and especially so large a part as the head, is elevated. It is well known that the heart will continue to act for some time after the brain is removed—but no one ever saw the sensorial functions continue a single minute after the heart had ceased to move. The pulse may not be perceptible, though the heart is acting; but we need not dwell on this part of the subject farther.

II. Excessive Re-action.

The animal soon recovers from the milder degrees of syncope, the heart regaining, but not exceeding its usual force; but if the detraction of blood be repeated at such intervals, and in such quantities, as not to endanger life, the re-action passes the limit of healthy function, and becomes excessive, presenting some curious and important phenomena. Here our worthy author appears to feel the error of attributing syncope to affection of the brain, since he is forced to allow that the reverse, or rather the effect of that state, "is obviously an affection of the *heart*." We are confident that the syncope is just as much a failure of the heart's action, as re-action is an abnormal condition of the function. The author goes to entangle himself and his readers with reasons for this differenee of seat in the cause of syncope and re-action, and, of course, makes confusion more confounded. In his anxiety, however, to prove his position, he has overshot the mark, and has

fallen into an erroneous exposition of visible phenomena. During re-action, Dr. Hall tells us that, although the head is seen and felt to throb with the violence of the circulation, "the brain does not appear to be at all affected." On this point we join issue with Dr. H.; and we maintain from careful observation and personal feeling, that in all kinds of re-action, from that which succeeds a cold bath up to that which follows the cold stage of ague, the sensorial functions are affected in proportion to the strength of that re-action. Dr. Hall himself tells us that, in the re-action after bleeding or hæmorrhage, "the eye is bright, the countenance and manner lively." Are these signs that the sensorium is unaffected?—Are they not the reverse of the sensorial phenomena presented in syncope, or the approach of syncope? But Dr. Hall has given us but a niggardly account of the phenomena. The sensibility of all the organs of sense is augmented during the re-action—thought itself is quickened—imagination is exalted—temperature is raised—in short, every function dependent on the brain and nerves is stimulated and elevated above par, in proportion to the re-action. For the truth of this statement, we appeal to every one who has observed or felt—to every one who chooses to observe in future at the bed-side.

III. SINKING.

Syncope may be easily induced by the detraction of blood, and re-action may be, without difficulty, subdued again. The state termed "sinking" is not easily induced in animals. If the detraction of blood be moderate, the animal soon rallies—if excessive, dissolution takes place, and not gradual sinking:—The animal dies during the night. In one or two of the experiments, however, there was something like an approach to the state of sinking observed in the human subject.

IV. DISSOLUTION.

This, our author thinks, is principally an affection of the brain, like syncope. We are disposed to think that *dissolution* indicates a pretty considerable affection of various organs and functions including the heart among the rest. The experiments, however, showed that the heart often continued to act, after the functions of the brain appeared to cease.

"After the last gasp, after the last convulsive movement, the heart can be seen, felt, and heard beating with force, and the pulse of the femoral artery is quite distinct. We observed this in several instances, and in one for many minutes." 261.

V. ORGANIC CHANGES.

If an animal die from the effects of one, two or three abstractions of blood, the brain and other viscera "do not appear to be remarkably blanched;" but, if existence has been more protracted under the influence of loss of blood, the said organs appeared blanched. This circumstance Dr. H. thinks, militates against the doctrines of Kellie and Sanders; but we apprehend that these experiments were chiefly on animals bled to death at once, or at very few bleedings, in which cases the head was found not only not blanched, but even unusually gorged with blood.

In respect to the lungs, it was only in two experiments that any disorganizations were found. In these there were traces of emphysema, congestion, or hepatization, with fluid in the bronchia and air cells. The right side of the heart generally contained blood—the spleen was small—other vicera, except the liver, blanched.

VI. The Blood.

When separated into serum and crassamentum, the proportion of the latter at first exceeded that of the former; but this proportion was gradually inverted—the quantity of serum augmenttng, whilst that of the crassamentum diminished. In many cases, a creamy substance floated on the serum, consisting of oily matter soluble in æther, probably fat absorbed. In only one instance was there an appearance of buff.

In respect to the pulse, it was sometimes rendered slower, sometimes quicker, by the loss of blood. As to the capillary circulation, the conjunctiva becomes blanched—the ears and feet cold.

Practical Applications.

"We may deduce from the foregoing experiments the extreme difficulty of acertaining the state of immediate danger arising from loss of blood, whilst the animal retains the horizontal position. There is no phenomenon which clearly indicates such danger.

In the prosecution of these experiments I had continually to regret the want of a criterion for the extent to which I might allow the blood to flow,—a criterion which is afforded to the veterinarian by the position of the horse, and of which the physician may avail himself by directing his patient to be placed upright. The dog is apt to pass from the sitting to the prone position, and then more blood may be withdrawn than he can bear to lose, before any distinct criterion of the sufficient quantity was apparent.

This difficulty was particularly felt when we attempted to induce the slowly sinking state. If we took too little blood, the animal rallied perhaps completely; If too much, it sank immediately. In another position the signs of an incipient syncope would have afforded us the guide and the warning which were wanted.

From observations made on the human subject, and in the course of these experiments, I am alike persuaded that blood letting ought never to be employed in the horizontal position. The quantiiy of blood taken, although apparently moderate, may be beyond the powers of the system to bear. But if the erect position be adopted, the occurrence of syncope limits ths flow of blood, and the change to the horizontal position affords a prompt refuge from danger.

We learn from these experiments, that during the state of excessive re-action there is danger of effusion into the brain. That state must therefore be watched with peculiar anxiety in the cases of our patients.

We learn also that there is great danger of mistaking the state of excessive re-action, for diseases of the heart and its valves. A correct diagnosis is, of course, of the utmost moment." 267.

The experiments themselves we must pass over; and with the exception of the point of physiological difference between us, we beg to express our high sense of the talented author's merit in this and other papers.

VIII.

THE UTERUS AND THE HUMAN OVUM DURING THE FIRST MONTHS OF PREGNANCY, REPRESENTED ACCORDING TO NATURE. By Dr. *Burkhard William Seiler*, Physician to the Royal Court of Saxony, &c. &c. With Twelve Copper Plates. Dresden, 1832.

IN the introduction, the author having paid the tribute of praise justly due to the works of Hunter and Soemmering, which he terms the ornaments of English and German literature, he apologizes for himself by saying, that the talent and researches of these two celebrated individuals have done so much for the subject on which they treat, that little remains for him but to fill up the gaps which they have left, not from any lack of industry or zeal, but rather of the necessary opportunity of examining a sufficient number of embryos and the impregnated uterus in perfectly healthy females, especially as regards their condition at the various periods of utero-gestation. He intimates that it is not sufficient to come to general conclusions from observations made on the uteri, *i. e.* obtained in a casual way, as circumstances permitted; but that in order to draw any really useful deductions, it is necessary, not only to devote oneself entirely to the subject with zeal and assiduity, but to obtain possession of a number of fresh embryos, taken from *perfectly healthy* females, and in a regular series, that the progress of the phenomena of Nature may be carefully and clearly traced; that such an opportunity falls to the lot of few, but that *he* has been so fortunate as to have the opportunity, and he hopes that he has made a good use of it.

He states that, for some years, Hunter's doctrines of the developments of the impregnated uterus were received almost without limitation, and were generally considered sufficient; but that he, not having described according to nature the "membrana decidua reflexa" at every period of gestation, gave rise to different views respecting their form, and even of their existence:—Moreover that, in later times, the important researches of Baer, Blundel, Breschet, Burns, Cruikshank, Home, Dutrochet, Meckel, Oken, Dollinger, Weber, Burdach, Jorg, Lobstein, Carus, Dumas, Pander, Prevost, Rathke, Velpeau, and others, have explained many circumstances, and shewn that the opinions previously entertained were weak, contradictory, and little grounded in facts; that it, therefore, became necessary to put them to the test of further experiment, by again referring to preparations, which unfold, at all events, the chief moment of each particular development.

Speaking of the decidua, he says that some authors compare the decidua vera to the well-known membranous product of inflammation, an opinion to which he does not subscribe—that others describe the extremities of blood-vessels on the inner coat of the uterus, which, says he, cannot be demonstrated in preparations; that, even respecting the thickness of that coat we are still at variance; that the existence of the membrana decidua reflexa is quite denied by some, whilst, according to others, this coat, in consequence of a pressing inwards of the decidua vera by the ovum, is formed,

and thus gives rise to another opening or cavity; that this view of the matter does not owe its origin to the investigating of *healthy* specimens of ova during their situation in the womb, and that it is not grounded on observations made at the chief period of the development; that it has, however, led to the perfectly false adoption of a "membrana decidua primaria et seroteria;"

That on the subject of the chorion, its layers and flakes, very various views are entertained, and even the almost forgotten opinion, of the immediate vascular communication and connexion between the mother and the fruit, has of late years found its defenders.

Respecting the uterine and the fœtal placenta there remains so much uncertainty, that the learned and shrewd naturalist, Baer, takes an opportunity, in one of his latest publications ("on the Vascular Connexion between the Mother and Child,") to set forth the supposition, that it may be in man as he has seen it in dogs, viz. the maternal and fœtal placenta grown together. No less wavering, he says, are the opinions entertained respecting the form and situation of the allantois in the human ovum. Even the already well-grounded view (as it seemed) of the connexion of the navel bladder with the intestines, met with opposition a few years ago, and it seemed, indeed, according to the investigations in animals, that some further notices on the subject were necessary.

The author then states, that accident has afforded him the opportunity, during a period of 12 years, of dissecting and examining 30 impregnated uteri, all of *perfectly healthy females*, and at different periods of utero-gestation; that some of them were injected—at one time the uterus or placenta alone, at another, both in the same preparation. In this way, he states that he has been able to furnish the museum of the Medico-Chirurgical Academy at Dresden with a series of preparations, which exhibit the principal moment of development during pregnancy, both in the uterus and the ovum, and whose numbers he proposes, in the second part of this work, to introduce as a note to the description. In order to obtain more information on this subject, he says he examined preparations taken from horses, dogs, swine, cows, and sheep, in which the time of fructification was observed as nearly as possible; that he compared the results he came to himself with the observations of others, and took into consideration also the passing phenomena of oviparous animals. He hopes, therefore, that he has been able, in this manner, to arrive at right conclusions, and to throw some light on a subject which has hitherto remained in so much doubt and obscurity.

This work, he says, will contain all that he has to say on the subject relative to man. The results of his observations on animals it is his intention to publish in parts, in the course of the Summer, under the title, "Investigations of some Parts of the Ova and Embryos of Animals." He proposes to treat particularly of the allantois and the navel bladder, the corpora Graafiana, &c. and other circumstances and peculiarities which he has himself observed, not only in dogs, swine and cows, but in sheep, the horse, and in man; he proposes, also, to set them forth in their proper order, as they appear in succession. The author seems to be aware that the subject is not without difficulties, and especially that in the inferior animals, the earliest periods are involved in much obscurity, the parts having then very much the appearance of jelly; and that, until the decidua reflexa is fully and fairly

formed, the preparations are so tender and so easily torn, that it requires some experience to handle them, and to profit by the investigation. He wishes to institute comparisons between the phenomena which take place in man and in the brute, and so to illustrate and explain the great designs of Nature, as to render the work useful, not only to the teacher of anatomy and the physiologist, but also to those practising the obstetric art; and he hopes that his drawings and illustrations may, in some degree, make up for the want of the preparations themselves, which are not always at hand. The text of the present work is divided into two parts; the first contains a general explanation of the plates, and a sketch of the results of the author's observations on the uterus and ovum during the first months of pregnancy; the second part treats more fully of the author's opinions and the opinions of others, from remote periods up to the present time. Some of the drawings the author was pleased to lay before the Assembly of Naturalists and Physicians at Berlin, in the year 1828, and was so happy as to receive the praises of the meeting; among others, Professors Rudolphi and Tiedemann honoured him with their countenance. The author, therefore, recommends himself with confidence to the notice of the literary world, and asks only that liberality and impartial criticism which distinguish the true philosopher; he will then be encouraged to prosecute the subject he has undertaken, and to publish hereafter the results of his observations in the form of a supplement.

We think the author has done great justice to the subject he has taken in hand, and is worthy of public confidence; he seems to have set about the undertaking with great assiduity and in a scientific manner; he has availed himself of the opportunities afforded him, and should be encouraged to proceed. He begins in a tangible, proper manner, and throughout the work there is less of that soaring of the imagination in which the Germans, in the warmth and ardour of their temperament, art apt to indulge—we should rather have said there is none. We cannot charge the author with being speculative; he dwells, perhaps, a little more on the subject of the decidua, and the doctrines of Hunter and Bojanus, than may be necessary, as we do not see that his remarks are likely to lead to any practical result, or to establish the point at issue. They refer chiefly to the manner in which the deciduæ are formed; the "membrana decidua vera" of Hunter he declares to be—

"No new product, resulting from impregnation, but the loosened, and now vascular and highly organized, inner lining of the uterus itself, which has necessarily separated and richly developed itself. It is, when in a healthy state, of a red colour, and from one line to at most a line and a half thick, and it is only in aborted or diseased ova that we see it much thicker, as it is represented in the 8th table. In the first weeks of impregnation, (how long, I cannot exactly determine,) it is covered over with a white slime, just as the decidua reflexa has formed itself, and we are able to distinguish two perfect layers united together: the outer one loose, cellular, or mucous and vascular, and an inner one, at the cavity of the uterus, smooth and without vessels, which, at first sight, resembles a serous membrane, but which, on closer examination, appears to be very different, and more like a coagulated slimy membrane. This inner layer goes over the mouths of the Fallopian tubes, so that it entirely closes them, and in the more advanced periods of gestation, when the placenta is formed, and the membrana decidua reflexa has in part disappeared, is but imperfectly traced."

The "membrana deridua reflexa," the author states, he has represented "as it appears when the ovum is taken carefully out of its situation." He traces its beginning at the cut wall of the membrane of the uterus, and describes it as lying some lines wide, exactly on the outer layer of the membrana decidua vera, so that (he says) it forms the inner layer of the same, and entirely surrounds the ovum.

"That part of the decidua which lies free, closes the fore part of the cavity (as is represented in the fourth table,) discloses small hollows, in which the shaggy flakes of the chorion rest, and by which the ovum at this period is made fast." 12.

That lastly, the os uteri is entirely closed by these membranes.

The author attempts to describe in regular order, as the phenomena of gestation proceed, the changes which take place as the uterus and its appendages develop themselves. Thus he speaks of, and illustrates in a very proper manner, the appearance of the ovaria and fallopian tubes, when impregnation has taken place, and the ova are descending into the uterus. Although the author deserves great credit for the manner in which he handles this part of the subject, one cannot help wishing that he had accompanied his illustrations (which we consider valuable) with more full remarks, as it is a subject of great importance as connected with jurisprudence, and one which every medical man is liable to be called to consider, and would do well to make himself familiar with. We are far from wishing to throw any blame on Dr. Seiler, for we think the scientific world are greatly indebted to him for what he has done; but, as he seems to have devoted so much time to the subject, and has had opportunities which do not fall to the lot of every one, the profession naturally look to him for information on this matter, and perhaps this hint may not be lost: if so, we shall be glad to have been the means of eliciting, from a man of talent and research, the elucidation of a subject which cannot fail to give Dr. Seiler additional claims to the public gratitude; and should he succeed by his exertions in saving only one life, by vindicating the character of an innocent, though suspected man, he will, we are sure, consider himself amply repaid. It is an awful thing, to reflect that we have been the means of condemning the innocent. In a court of law, the decision often depends entirely on the medical evidence; we are in duty bound to lean to the side of mercy, but justice requires that we speak truth. Though it be better that 10 offenders escape unpunished, rather than one just man be sacrificed, still, if religion teach us to reward virtue and punish vice, it is our duty to speak out, expose villainy if we can, and make of it a proper example. How many are led by their passions to commit crimes! How many have occasioned death unintentionally or ignorantly! How often do we hear of medicaments, and even poisons, being administered with a view to produce abortion! How many unfortunate females, fancying themselves with child when they were not, have been overcome by shame, and the dread of what they imagined, to destroy themselves by poison! and how often has the suspicion, in such cases, fallen on their lover, who, though innocent of the major offence, may have found it very difficult to clear himself! How much, then, depends, in such a case, on the medical evidence! The subject is one which is still involved in much obscurity; the appearance and condition of the organs of generation, with their appendages, before and after conception, are still im-

perfectly understood, and we are liable to be led by them into much error; and on the error which we commit depends, perhaps, the happiness and reputation, if not the life, of a worthy individual. It is the duty, therefore, of every lover of justice—every advocate of truth, to urge those who, like Dr. Seiler, have taken up this branch of the profession, to investigate it particularly in all its bearings, that, however scientific may be their physiological researches, they may not lose sight of the real end of all philosophical enquiry—the intellectual and physical happiness of mankind. We do hope, therefore, that Dr. Seiler will not lose sight of the practical inferences to be drawn from physiological observation, and that he will hereafter point out to us himself such improvements, and useful deductions, as his researches may lead to; his labours will then be doubly esteemed, and his works will not only be read by the curious and praised by the ingenious, but they will be appreciated by all who wish well to their fellow-creatures.

Little more need be said respecting Dr. Seiler's work. We think it may confidently be recommended to the notice of the profession; it is calculated to facilitate the study of the subject it is intended to teach: it is clearly written, and free from speculation or ambiguity, and will, therefore, be highly useful in the hands of the beginner. The plates are distinct and good, without being expensive, and are good illustrations of the text; they not only give us a clear idea of the progress of utero-gestation, and of the phenomena which occur as the healthy uterus develops itself, at the different periods, until it be relieved of its burden, but they explain to us the changes which the organs themselves undergo—the formation of the placenta and decidua—the position and condition of the ovum and fœtus, and also the nature of abortions during the early months, as far, at least, as is necessary for the object in view. The drawings, he says, were made from preparations, taken from naturally healthy females. The author gives us an excellent illustration of the formation and nature of the shaggy flakes of the chorion. In a word, we consider Dr. Seiler's work as a valuable acquisition to the medical world, and hope that it will meet with a good reception.

IX.

CYCLOPÆDIA OF PRACTICAL MEDICINE.—Dr. *Gilkrest* ON YELLOW FEVER.

IN this very excellent work, which, with Dr. Copland's Dictionary, will prove an æra in medical literature, there are numerous articles which we had intended to notice, had we not been prevented by the pressure of other matters. Among these, we observe a very clever article on yellow fever, by Dr. Gilkrest, Deputy Inspector General of Army Hospitals. Although a long piece, and the late comparative salubrity of our West India Colonies have diminished the interest of the subject among general readers at home; yet, to the army and navy practitioners, this monograph will prove a valuble present. Dr. G. very clearly accounts for much of the discrepancies

of writers on yellow fever, by what we might almost call the discrepancies of the disease itself. Thus, in the same epidemic, or even in the same wards of an hospital, the disease will present such varieties as almost to lead to a belief in the existence of four or five different fevers. Some have described it as a purely continued fever—some as a remittent—and a long controversy has been maintained, whether or not it is a contagious disease. Some maintain that it was introduced into the West Indies from Africa, and again from the Antilles to Europe; but the controversy is nearly over, since an overwhelming majority is now on the side of non-contagion and of non-importation. There can be little doubt that the disease is indigenous in the places where it appears, even were it true that it had only occurred in modern times. This is Dr. Gilkrest's opinion, and he supports it by able arguments, as well as ample personal observation. The author proves, beyond a doubt, that Sir G. Blane and others are totally wrong, when they assert that the yellow fever first broke out at Cadiz in 1764—and not again till 1800. Valalba, for instance, describes it as epidemic in 1730—1731—and 1736. Various writers have also recorded many outbreaks of the disease in different years, between the two epochs alluded to by Sir Gilbert, and also before the first of those periods.

It has been confidently asserted by the yellow-fever contagionists, that the disease has only affected a few places in Spain, and those chiefly seaport towns. Dr. G. gives a long list of localities where yellow fever has prevailed, some of them, as Cordova, 70 miles in a direct line from the coast.

The symptomatology of yellow fever is drawn up by Dr. Gilkrest in a very terse, yet luminous manner; and the same may be said of those sections which treat of the diagnosis, prognosis, and morbid appearances after death. In respect to the etiology of yellow fever, the author is obliged to candidly acknowledge his ignorance. He has been unable to trace the disease to malaria, filth, or crowded population—nor even to any appreciable state of air or earth. He does not however deny the influence of these agents in aggravating or predisposing to the disease.

"We shall introduce an extract from the section on TREATMENT, which will give the reader an idea of the manner in which the work is executed.

"*Treatment.*—It is painful to be obliged to admit that our advancement, within the last half century, towards any thing like a satisfactory treatment of the disease, in its formidable shape, has been sadly disproportionate to the degree of intellect brought to bear upon the subject within that time by professional men of different countries. Even with respect to those forms in which the symptoms, though formidable, are comparatively less intense, it seems very difficult to draw from a review of what has been done by many, fixed rules for our guidance on certain points of practice. The discrepancy in the statements of respectable authorities regarding the efficacy of a particular line of practice can indeed be no otherwise explained than by the admission that in some epidemics very remarkable peculiarities occur. *Venesection* may be particularly referred

to in illustration; for though it has over and over again, after trials in the hands of men who are not to be set down as injudicious, been decried in our West India colonies as well as America; and though it has been generally abandoned long since by the experienced practitioners of Spain, we find it nevertheless, lauded on certain occasions, especially very lately at Trinidad, jointly with the warm bath and other means, by persons of unquestionable judgment. On our first acquaintance with this disease, nothing would seem more plainly indicated than this remedy, when the excitement runs high; but it has been too frequently found that after its employment, even but to a limited extent, the true character of the disease had been masked, and as the Spanish practitioners express it, that the patient is speedily found to require all the strength which had been *taken away*. Frequently as we have witnessed blood taken from the arm in this disease, under a strong impression that a highly inflammatory action was going on, never has the blood, in a single instance, presented a buffy surface with a firm coagulum; it has on the contrary always formed a loose mass, yielding readily to the pressure of a finger, the serum separating very imperfectly, or not at all. It may here be mentioned that our experience by no means bears out the assertion of some, as to the remarkable dark colour of the blood drawn from yellow fever patients. Without any intention to impugn the statements respecting the advantages derived from liberal venesection on particular occasions in the West Indies, it must be declared that the weight of evidence is against its general adoption in yellow fever, even where, *prima facie*, would seem to be indicated. The valuable naval medical records at Somerset House being rendered accessible for reference by the liberality of Sir W. Burnett, some highly interesting observations on the point in question will be found in the reports from Mr. Linton, who has been long resident in the West Indies, and for some time in charge of the Naval Hospital at Jamaica. Quite in accordance with our ample experience of the disease, as it appeared in the West Indies and Gibraltar, this gentleman declares the disease as 'decidedly not inflammatory,' though 'inflammatory symptoms may concurrently or adventitiously take place:'—would adopt the expression '*inflammatio simuluta*,' as expressive of 'irritation or vascular sensibility:'—states that, in the records, extending back for many years, the mortality was very great from the depleting system, which, from the *seeming* inflammatory nature of the disease, had been acted upon; and that 'the *post mortem* examinations which have occurred within the last twelve months [referring to a particularly sickly season] presented no appearances which could be legitimately ascribed to this state [inflammation.] As in other fevers, circumstances will arise where the application of leeches to the temples, or of leeches and cupping-glasses to the epigastrium, may be strongly indicated; but the experience of others bears out the last-quoted gentleman in a remark that there is great risk of mischief from opening the temporal artery, collapse being very liable to be induced. Having mentioned cupping, it suggests itself (though perhaps not as a very promising speculation) that in the hope of affording some palliation of the incessant vomiting often so very distressing in yellow fever, we may give a trial to dry cupping on the epigastrium, as practised by ancient physicians in their endeavours to relieve the vomiting in malignant cholera. *Blisters*, with this object, are frequently applied at an early stage to the same part; but to Mr. Linton of the Royal Navy, the profession is indebted for a suggestion as to their application in annother manner with the same view. He states in a report from Jamaica, dated Sept. 1830, that having placed a blister the whole length of the spine in a certain number of cases, the irritability of the stomach was relieved in all except one. Their application to the head is sometimes found beneficial in protracted cases accompanied by cerebral affection. The *warm bath*, where we have not morbid heat of surface with high vuscular action, holds its place as a useful auxiliary in the early stage; and where these symptoms predominate, the *tepid bath*, occasionally repeated, is employed by many; or, by some, the *cold bath*, or sponging with cold water, or with vinegar and water. Assiduous friction of the whole surface, after the bath in any form, has been considered beneficial. The promised advantages from Dr. Jackson's suggestion of a cold bath with frictions, immediately after a warm bath, have not been realized. The application of cold by means of wet cloths to the forehead has been found useful in relieving the severe frontal pains liable to occur in persons in the full vigour of life." 22.

After mentioning various internal medicines, and giving a short outline of Dr. Hackett's method of treatment, as recently described in this Journal, he observes—

"*Mercury.*—On a review of the different modes of practice adopted in this proteiform disease, within the last forty-two years, by practitioners in the British West India Islands, the United States, and Gibraltar, this remedy seems to have best maintained its ground; for though it be quite true that it has from time to time fallen into discredit from persons having, in the course of an epidemic, frequently found that, like all other human means, it made no impression on the most aggravated forms of the disease, it nevertheless has stronger testimony in its favour than any other practice which can be named. The late venerable Chisholm said, after a consideration of the subject during thirty years, 'Are we then, from any vain or unfounded apprehension, from reasoning drawn from false premises, or from uninformed or prejudiced minds, to yield up the result of our own frequently reiterated experience?—to relinquish the best aid [*i. e.* mercury] which we can bring to the support and relief of our fellow creatures suffering under so direful a malady?—Forbid it humanity!—forbid it heaven!'

Since the history of the American epidemics of 1793 and 1794, by Rush, numberless have been the publications in which the practice, either by inunction or otherwise, has been recommended, and the medical archives of our army and navy contain very strong evidence of the great advantage to be expected from the remedy in one shape or other (though not to the exclusion of other means) in those cases where a hope from the employment of any remedies can be entertained. Among the latest authorities in its favour is Mr. Linton, of the Naval Hospital, Jamaica, the gentleman before quoted as having had long experience in the West Indies. He states in his official report of December, 1829, that in his practice, after purging, the bath, and blisters, he gave calomel every two hours, in doses of from five to ten grains, and that, where the symptoms made rapid strides, he commenced mercurial frictions at an early period. He states in a previous report that, where he had been tempted, after the first calm from various remedies, not to push the mercury, he 'had frequent reason to regret this *misplaced confidence*.' He says, 'In every instance, as soon as the mouth became affected by the mercury, so that ptyalism was unequivocally established, the patient might confidently be pronounced convalescent.' He remarks, with great judgment, and in doing so he is perfectly borne out by the experience of others, that 'there is, however, a condition of the gums, which are only to a certain degree affected by mercury, which is often confounded with ptyalism, and which has frequently induced some medical writers, unacquainted with or prejudiced against the use of mercury, to affirm that several patients die in a state of ptyalism. A strong mercurial halitus may be perceived; the gums are swelled, spongy, and livid, and a clammy, thick secretion of mucus, *not saliva*, takes place; but under these critical circumstances farther progress of ptyalism is arrested.' Under these circumstances, and the symptoms not yielding, Mr. Linton recommends that the internal use of the remedy should be suspended; that generous nourishment, warm baths, and stimulants should be had recourse to, and frictions then continued in the hope of obtaining the desired end. In one of his reports he alludes to trials of the medicine in a particular form: 'in three cases which recovered under similar circumstances, I have latterly employed a solution of oxymuriate of mercury with decided good effect; but when the stomach is very irritable, this form of medicine is inadmissible.' Another gentleman of long experience in the West Indies, (Dr. John Arthur,) states in an official report from Barbadoes, of the 17th of March, 1821, 'I believe far the most recoveries

have been after the use of this medicine in one shape or other.' It is stated in a report of the same year by staff-surgeon Hughes of Berbice, that calomel was given with '*great advantage*, and one satisfactory conclusion to be deduced from its operation, when it affects the mouth, was that of the patient's being on the side of safety.' In a report from Surgeon Callow of the 84th regiment, relative to the Jamaica epidemic of 1827, he states that he 'relied considerably upon the specific action of mercury for ultitmate cure;' that he employed the blue-pill 'certainly with advantage,' and inunction as an invariable adjuvant. It has been stated by Dr. Francis, when referring to the treatment adopted in the epidemic of 1822 at New York, that 'mercury was considered by some physicians as conspicuous among the curative means.' The history of the Gibraltar epidemics furnishes the names of many experienced men who have seen good reasons for relying much on the use of mercury in this disease; among these, Mr. Amiel, now surgeon to the 12th regiment, should, perhaps, stand first. This gentleman having witnessed epidemics in that garrison at three different periods, and closely observed the effects of treatment the most varied, considered mercury, up to the last case in 1828, as his '*sheet anchor.*'" 24.

On the subjects of contagion and importation, with their *consequence*, quarantine, Dr. Gilkrest is equally in his element—and, indeed, he writes *con amore*. We shall not, however, enter on this concluding part of the essay, since we could not present even a faint outline of the immense mass of authentic facts and evidence which Dr. G. has collected. This article on yellow fever is one of the best that has yet appeared in the Cyclopædia of Practical Medicine.

X.

WORKS ON MORBID ANATOMY.

1. ILLUSTRATIONS OF THE ELEMENTARY FORMS OF DISEASE. *By Robert Carswell*, M.D. Professor of Pathological Anatomy in the University of London, &c. &c. Fasciculus first—Tubercle. Royal 4to, four coloured Lithographic Plates, with accompanying Letter-press. London, Longman's 1833.

2. PRINCIPLES AND ILLUSTRATIONS OF MORBID ANATOMY, &c. BEING A COMPLETE SERIES OF COLOURED LITHOGRAPHIC DRAWINGS, &c. &c. *By J. Hope*, M.D. F.R.S. Physician to the St. Mary-le-bone Infirmary, &c. Large 8vo. Part II. February, 1833, price 8*s.* 6*d.*

IN our last Number, we had occasion to speak in a very favourable manner of the first part of Dr. Hope's Illustrations of Morbid Anatomy. Since the publication of that part, Dr. Carswell has brought the first fasciculus of his work into the field, and both are now before the public. We will not attempt the invidious task of comparing them. They are both of considerable merit, and we hope there is scope for each.

The able and industrious authors have adopted different plans in their development of the subject. Dr. Hope takes up an organ or an apparatus, and displays all its lesions; Dr. Carswell, on the other hand, selects an elementary lesion or morbid formation, and traces it in various organs. Thus, Dr. Hope's first and second parts are devoted to the morbid changes observed in the pulmonary organs, whilst Dr. Carswell has selected tubercle as the subject of his first fasciculus, and shewn it in the lung, spleen, kidney, testis, uterus, intestine, &c. It will be seen that an important difference exists between the methods adopted by these gentlemen. Leaving any farther comparison, we will consider separately the fasciculi before us.

And first of that of Dr. Carswell. It is dedicated, as we have said, to the delineation and description of tubercle. To the delineations we shall allude bye and bye—at present, we will endeavour to give a brief account of his views of the origin and progress of tubercle.

Dr. Carswell gives the following definition of tuberculous matter, constituting, as it does, the essential anatomical character of those diseases now termed tubercular. It is a pale yellow, or yellowish-grey, opaque, unorganized substance, the form, consistence, and composition of which vary with the nature of the part in which it is formed, and the period at which it is examined. Dr. C. next considers, seriatum, the seat, form, consistence, and colour, composition, softening, and progress of tuberculous matter.

Seat of Tuberculous Matter. Of all organs, and of all tissues, the mucous membrane is most especially the seat of this morbid production. Thus, it is found in the mucous system of the respiratory, digestive, biliary, urinary, and generative organs. It is also observed on the secreting surface of serous membranes, particularly the pleura and peritoneum, and in the cells of the cellular tissue; it often forms considerable accumulations in the lacteals and lymphatics, both before and after they unite to form their respective glands; it is also seen in the substance of the brain and cerebellum, in accidental cellular tissue, and in the blood.

Form of Tuberculous Matter. The round form which it ordinarily assumes is, Dr. Carswell thinks, accidental, and arises from the equal opposition offered on all sides to its development. In parts where such equal opposition is not offered, that round form is not maintained. Thus, if confined to the secreting surface, it assumes the form of a shut or open globular sac—in the air-cells it is globular—in the bronchi, of a tubular or cylindrical form, with a ramiform distribution, terminated by a cauliflower arrangement of the air-cells; in short, it assumes, in various tissues or organs, the form of the containing parts. When the secretion of tuberculous matter takes place, so as to become disseminated throughout a considerable extent of an organ, it is said to be infiltrated, and has no definite form, save that of the part in which it is diffused. The granular arrangement of tuberculous matter in the lungs, is owing to its accumulation in one or more contiguous air-cells, and the lobular character which it occasionally presents in the same organ, is due to its being confined in the air-cells of a single lobule.

Consistence and Colour. "Tuberculous matter does not acquire its maximum of consistence until an indefinite period after its formation. It is frequently found in its primitive state in the bronchi, air-cells, biliary ducts and their dilated extremities, in the cavity of the uterus and fallopian tubes, &c. resembling a mixture of soft cheese and water, both in consistence and colour; but when much resistance is offered to its accumulation, as in the lymphatic glands, and even sometimes in the air-cells of a whole lobule, it may feel as firm as liver or pancreas. These extreme degrees of consistence of tuberculous matter depend not only on the resistance which the tissues of these and other parts oppose to its accumulation, but also on the removal of its watery part some time after it has been deposited. Hence it follows that tuberculous matter may, when first perceived, be either very soft or remarkably firm. In the first case it is pultaceous, and feels somewhat granular when rubbed between the fingers; in the second, friable: and in both it is of a pale yellow colour, and opaque.

The grey semi-transparent substance, already alluded to, by no means necessarily precedes the formation of the pale yellow or opaque tuberculous matter; it is, indeed, observed in a few only of the many organs in which the latter is found. Thus it is never seen in the cavity of the uterus or fallopian tubes; in the ureters, pelvis, or infundibula of the kidneys; in the mucous follicles of the intestines; in the lacteals or lymphatics; in the biliary ducts; nor do I recollect to have seen it in the cerebral substance. I have never met with it in the bronchi, unless in some of their most minute or terminal branches. On the contrary, the semi-transparent substance is frequently seen in the air-cells and on the free surface of serous membranes, particularly the peritoneum; and in both it is certainly sometimes observed to *precede* the formation of opaque tuberculous matter; because, first, a number of cells of the same lobule are seen filled with the former, whilst the remaining cells contain the latter substance; secondly, because on the peritoneum the grey semi-transparent substance is generally more abundant than the pale yellow opaque matter; and, thirdly, because a small nucleus of the latter is frequently enclosed in a considerable quantity of the former. The following is the explanation which I would offer of these exceptional conditions to the regular and ordinary formation of the tuberculous matter. But, first of all, it is necessary to remark that the formation and manifestation of this matter as a morbid product cannot take place unless the fluid from which it is separated—the blood—has been previously modified. This important fact being admitted for the present, it is obvious that a healthy secreting surface may separate from the blood not only the materials of its own peculiar secretion, but also those of tuberculous matter. Such is, indeed, what takes place in the air-cells. The mucous secretion of their lining membrane accumulates where it is formed; but it is not pure mucus; it contains a quantity of tuberculous matter mixed up with it, which after a certain time is separated, and generally appears in the form of a dull, yellow opaque point, occupying the centre of the grey, semi-transparent, and, sometimes, inspissated mucus. This process of separation of tuberculous matter from secreted fluids is strikingly exemplified in tubercular peritonitis. When we examine the peritoneum thus affected, the three following stages of the process are frequently extremely well marked; first, on one portion of this membrane there is seen a quantity of recently secreted coagulable lymph; secondly, on another we find the same plastic semi-transparent substance, partly organized, and including within it, or surrounding a globular mass of tuberculous matter; and, lastly, on another part the coagulable lymph is found converted into a vascular or pale cellular tissue, covered by an accidental serous membrane, beneath which, and external to the peritoneal or orignal secreting surface, the tuberculous matter is seated, having the form of a round granular eminence, resembling in colour and consistence pale firm cheese.

In this as well as in the preceding case we cannot but perceive that the formation of tuberculous matter originates in a process similar to that of secretion; that its separation

from the blood may be accompanied with that of natural and also other morbid secretions; and hence the reason why its physical characters are sometimes obscured, particularly in the first stage of its formation."

Composition of Tuberculous Matter. Its chemical composition varies at different periods, in different animals, and probably in different organs. In man it is chiefly composed of albumen, with various proportions of gelatine and fibrine; in the cow it contains a large proportion of earthy salts, in which the phosphorate of lime is said either to predominate, or to exist in the same proportion, along with the carbonate of lime, as it does in bones. Dr. Carswell insists on the proposition, that tuberculous matter is capable of undergoing no change, save what is induced in it by the influence of external agents.

Softening of Tuberculous Matter. Our readers are aware that the mode of softening has been a litigated question with morbid anatomists. Laennec said that the softening commenced in the centre. Andral denied this, and maintained that no softening occurs but what may be attributed to the mixture of pus or other fluids. This is supported by Dr. Carswell; he endeavours to explain the apparent central softening which is thought to have misled Laennec. When tuberculous matter is found in the lungs, it is generally contained in the air-cells and bronchi. If the morbid product be confined to the surface, or has accumulated so as to leave only a limited central portion of their cavities unoccupied, it is obvious that on a transverse division, a bronchial tube will resemble a tubercle, having a central depression or soft central point, because, in the centre, there is no tuberculous matter, but merely a small quantity of mucus, or other secreted fluids; the air-cells will also exhibit a number of similar appearances, or rings of tuberculous matter, grouped together, and containing in their centre a quantity of similar fluids. Softening usually takes place at the circumference of firm tuberculous matter, in consequence of its proving an irritant to the inclosing tissues, which ulcerate and secrete pus, &c. This is the reason why softening is frequently seen making its appearance in several points of an agglomerated mass of this substance, which has included within its portions of the tissues in which it was formed.

Dr. Carswell doubts whether tubercle be ever really *encysted;* or, at least, he believes that this term is almost always incorrect. The walls of the air-cells in the lungs, the extremities of the biliary system in the liver, &c. are mistaken for cysts.

Progress and Termination of Tuberculous Matter. Dr. Carswell limits himself here to the manner in which tuberculous disease is cured. Scrofulous enlargement of glands does, as Dr. C. believes, disappear—tabes mesenterica has been known to terminate favourably—and Dr. Carswell has traced the curative process in the bronchial glands and in the lungs. The natural process of cure, or progress towards it, would seem, according to Dr. C. to consist of the conversion of the tuberculous matter into a cretaceous substance, or one resembling a mixture of putty and dried mortar. The bronchial glands frequently excite inflammation, adhesion, and ulceration in a contiguous part of the trachea, and the morbid matter is dis

charged into this tube. We will transcribe Dr. Carswell's history of the cure of tubercular phthisis.

"The tuberculous matter whether contained in a bronchial tube, the air-cells, or cellular tissue of the lungs, has assumed a dry, putty-looking, chalky, or cretaceous character. If these changes are observed in an excavation, the surrounding pulmonary substance is generally dark-coloured; and if the excavation exists in the course of large bronchial tubes, those situated between the excavation and the periphery of the lungs are obliterated, whilst those in the opposite direction terminate either in a shut extremity near the excavation, or are continuous with the lining membrane or accidental tissue which encloses the altered tuberculous matter. The existence of this accidental tissue is an important circumstance as regards the cure of tubercular excavations. It is formed by the effusion of coagulable lymph on the surface of the excavation, or in the substance of the contiguous pulmonary tissue; has at first, and so long as a ready exit is afforded to its secretion, the characters of simple mucous tissue; but at a later period, and especially when the latter condition is wanting, it becomes gradually and successively converted into serous, fibrous, fibro-cartilaginous, and cartilaginous tissues.

The cartilaginous and the osseous transformations of this accidental tissue are, however, rare, particularly the latter. It much more frequently retains the fibrous character, and possesses the property of contracting so as to diminish the bulk of the excavation, and carry with it the pulmonary tissue with which it is connected. The diminution of bulk which accompanies the removal of the tuberculous matter, and the contraction of this accidental tissue, give rise to a puckering of the lung, which is best seen where the pleura is forced to follow the retrocession of the pulmonary substance beneath it, and around what is called the cicatrix: for there sometimes remains only a small globular, oval, or even linear portion of fibrous or fibro-cartilaginous tissue, in a part of the lung, where, from the extensive puckering around it, there must have formerly existed an excavation of considerable extent."

The foregoing is a tolerably complete account of the history of tubercle, as given by Dr. Carswell. We have frequently remarked, with some surprise, that morbid anatomists, they who advocate exactness, and the nature of whose science would seem to admit of it, are extremely theoretical. Look at the views of Dr. Baron, of Dr. Hodgkin, and of other able and distinguished writers. The truth is, that, not content with cognizable facts, they are anxious, and naturally anxious, to go further than Nature, we fear, will permit. The search for the primary development of morbid products—for the manner in which they are deposited—the exact tissue in which they are seated, is like the hunt for the ultimate fibre of muscle, or the ultimate globule of the brain, a painful and a fruitless one.

We make these observations not to derogate in any way from the merits, the ingenuity, or the accuracy of Dr. Carswell. We do not pretend to pronounce an opinion on the truth or otherwise of some of his notions respecting tubercle; yet it would be a want of candour on our part, not to say that we have some misgivings with respect to their absolute correctness. We should not be surprised if some morbid anatomist were to criticise his conclusions as to the seat of tubercle, and deny that it is where he places it. But waving this, we think Dr. Carswell's history of this morbid production well worthy the attention of our readers.

The fasciculus before us contains four coloured lithographic plates, each containing some four or five drawings. In the first plate is represented tu-

berculous matter, deposited in the air-cells of the lung and in the bronchi —in the second, it is seen in the uterus, the kidney, the rabbit's liver, the testis—in the third, it is displayed in the lacteals and mesenteric glands, the cerebrum and cerebellum, the spleen, and in accidental cellular tissue covering the intestine—in the fourth, tuberculous infiltration of the lung is delineated, with the progress of a vomica towards cure, &c. Of the execution of the drawings we can speak highly, and we do not doubt that they are as accurate as they are beautiful. We do not conceive that any lengthened encomium is necessary, to make our readers anxious to be enabled to judge for themselves. We trust that Dr. Carswell will meet with all the success he deserves, and we feel assured that this is not trifling.

We must next advert to the second fasciculus of Dr. Hope's work, and we fear that our lengthened view of Dr. Carswell's must cripple us in our notice of this.

It will be recollected that Dr. Hope took up, in his first faciculus, the consideration of the diseases of the pulmonary apparatus. In the present fasciculus he continues that subject, and, as in that he treated of peripneumony and pleurisy, in this he passes to to phthisis pulmonalis, pulmonary apoplexy, emphysema, encephaloid tumour, melanosis, some minor alterations, and bronchitis. There is more letter-press in this than in the former part, and the delineations are of a superior rather than an inferior description. There are four plates and twenty-three figures. The latter are, on the whole, more highly coloured, perhaps more highly finished, than their predecessors, and, from not being of so determinate a figure, have a less formal air. We will not attempt to single out particular figures for particular encomium, nor particular criticism; we recommend the public to judge for themselves of these publications. The matter contained in the letter-press is fitter for our notice, and we shall endeavour to single out such portions as may seem instructive.

Dr. Hope commences with a notice of turbercle, that production which has occupied, as we have seen, the attention of Dr. Carswell. Dr. H. notices the theories of its primary state; he points out the objections that have been made to all, and he offers on his own part none. Perhaps this is prudent; perhaps it is philosophical to commence exact description where observation itself begins to be exact, and not to pave a system of facts with conjectures.

Tubercles may enlarge; but how? from within or from without? Reasoning would say from without, and facts appear to prove it—appear to shew, that the increase is by juxta-position of fresh particles of tuberculous matter, secreted by the tunics around. Drawings displaying this are given by Dr. Hope.

"The mode of tubercular deposition, therefore, may in conformity with the above illustrations, be explained in the following way. In the spot where the tubercular secretion has commenced, each *living* molecule, instead of its natural exhalation, separates from the blood a molecule of turbercular matter, which, superadded to the molecules already secreted, contributes to increase their mass. Thus, then, every tubercle is infiltrated into the tissues where it exists. Sometimes vestiges of these tissues may still be recognized in the substance of the tubercular mass, as already shewn in Fig. 17, *b*, Fig. 21, *e*, and Fig. 23; and to them are referrible the vessels which occasionally exist in the interior of tubercles. Sometimes the tissues totally disappear by compression. (Précis, i. 414.)" 28.

Tubercle, it is well known, may be either in conglomerated masses, when it is said to be infiltrated, or in isolated depositions. The former, Dr. Hope very justly observes, argues a highly tubercular diathesis, and is much more rapidly fatal than the latter.

The final transformations of tubercle are, 1, cretaceous induration; 2, softening by suppuration. We need not allude to the description of the former; its appearance must be familiar. Dr. H. has occasionally seen cretaceous tubercles in a softened state. In general they have been of a large size, from that of a marble to that of a walnut, existing in a very limited number, and often in otherwise healthy lung. They consisted of softish flakes and grains of friable calcareous matter, intermixed with a very little purulent fluid.

Softening is believed by Dr. Hope to be occasioned by the secreted pus, acting on the tuberculous matter exposed to its influence. In his remarks on the liability of vomicæ, situated near the pleura, to ulcerate through it, Dr. Hope remarks that nature guards against this in three ways: by exciting chronic inflammation and fibro-cartilaginous thickening of the sub-serous cellular tissue, or an albuminous deposition like white of egg, two-thirds boiled, which eventually hardens into fibro-cartilaginous tissue—by causing the formation of a dense fibrous false membrane on the serous surface of the pleura—or, finally, by causing adhesions of the pulmonary to the costal pleura.

The first drawing in this fasciculus is one of a tuberculous cavern that appears to have been cured. We saw the case, and can vouch for the accuracy of the memorandum and of the delineation. The cavity exceeded the size of the largest orange, and occupied nearly the whole of the upper lobe of the right lung.

Case. "A female, æt. 40, at St. George's, under Dr. Hewitt, presenting a remarkable instance of temporary recovery from consumption. Four years before admission she had hæmoptysis, after a fall, followed by hectic, emaciation, and all the symptoms confirmed phthisis. These subsided, and she was able to resume her accustomed avocations. They subsequently recurred, and, on admission, she was emaciated, had cough, thick yellow opaque sputa, perspirations, and loud pectoriloquy over the whole upper lobe of the left lung. She had also the symptoms of organic disease of the heart, and died dropsical.

On dissection, the above described cavity was found, and the lung beneath it was dense, contained numerous small tubercles, and was deeply coloured with much black and grey pulmonary matter. A few turbercles in the apex of the opposito lung. The tubercular disease had probably recurred subsequent to the healing of the cavern." 65.

Dr. Hope observes that tubercle is most commonly formed in the cellular tissue. The organs most frequently affected in the adult, are, first, the lungs, next the ileum, next the mesenteric glands, next the great intestine, &c. It is rare, in adults, for tubercles to exist in other organs while there are none in the lungs. In infants and children, the order of frequency is different; it is, first, the bronchial glands, then the lungs, then the mesenteric glands, then the spleen, then the intestines, &c.

"With respect to frequncy at different ages, observation shews, that prior to the age

of fifteen, tubercles are beyond comparison, the most common between the fourth and fifth year, three-fourths of those who die presenting, according to the tables of Lombard, more or less tubercular disease in various organs. Between the fifth and fifteenth year the disease is more frequent than before the fourth. After the fifteenth it increases; only, however, in the lungs, intestines, and mesenteric glands. Hence, after this age, it has acquired the name of pulmonary consumption.

From eighteen to forty, it is less common, though less so than from four to five. Females are more subject to it before the age of twenty, and males between twenty-one and twenty-eight. In the lower classes of working people, who are ill-fed and much exposed, I have found, from extensive observation in the Edinburgh and St. Marylebone Infirmaries, that tubercle is very common even up to the fiftieth year." 37.

Respecting pulmonary apoplexy, Dr. Hope observes that organic disease of the heart is by far its most frequent cause, two-thirds of the cases he has examined having been referrible to it. Contraction of the mitral valve, with hypertrophy of the right ventricle, is the lesion which he has found most uniform. This has been the case with the majority of patients, affected with pulmonary apoplexy, that we have seen examined after death.

We pass to Dr. Hope's observations on bronchitis, and we are tempted to extract his remarks on the different causes of *redness* of the mucous membrane.

"Chronic redness of the mucous membrane is more of a purplish, livid, violet, or deep brownish cast, all of which tints may be seen in the dilated bronchi, Figs. 50 and 52. In chronic bronchitis, especially if purulent, the mucous membrane is, in a few instances, perfectly pale.

In the larynx, trachea, and great bronchi, redness generally proceeds from inflammation: in the minute bronchi, it is frequently an effect of mechanical engorgement during life, or sanguineous gravitation after death. Redness from all these causes must be distinguished from that occasioned by putrefaction; nor must it be confounded with the natural redness of the lungs apparent through the walls of the finer bronchial tubes.

Redness of the mucous membrane is not *necessarily* excited by the diseases of the pulmonary substance. Though generally present in peripneumony, it is occasionally absent. Unsoftened tubercles sometimes exist, even in abundance, without giving rise to it, but its absence is very rare when they have formed excavations. Hence the principal part of the irritation and expectoration in phthisis results from bronchitis. The red is generally deeper in the vicinity of the caverns." 57.

Dr. Hope observes that thickening of the mucous membrane is a consequence of bronchitis, and that this thickening may result from two conditions; 1, sanguineous engorgement—2, hypertrophy. We merely notice this to afford ourselves an opportunity of alluding to a case from which a drawing has been made. The case itself has been taken from Andral, and is an instance of contraction from thickening of the mucous membrane.

"A toyman, æt. 31, had the symptoms of organic disease of the heart. Said that he had long experienced a sort of constriction a little above the right nipple; and that he did not breathe on the right side of the chest. The respiration behind was very strong, with a mixture of mucous ronchus; in front, on the left, it was similarly loud, but on the right, under the clavicle, the inspiratory murmur, though pure, was much more feeble than on the left, yet there was no dulness on percussion. Hence emphysema was expected. Hydrothorax, from the disease of the heart, supervened, and was fatal.

Sectio.—The superior lobe of the right lung presented no emphysema, but its tissue was very deficient in crepitancy, though otherwise sound. The principal bronchus presented, a few lines from its origin, a contraction so great that a fine stiletto could scarcely pass through it. A little before dividing, the bronchus regained its usual calibre. Over the extent of the contraction, the fibrous coat was natural, but the mucous membrane was red and greatly thickened. The bronchi and lungs were otherwise healthy. Hydrothorax; hypertrophy with dilattaion; contracted aorta." xvi.

The only other topic to which we shall allude is ulceration of the pulmonary mucous membrane. It may affect the larynx, trachea, or bronchi, but is most common in the first, and is rarely seen there unconnected with phthisis; that is, idiopathic laryngeal phthisis is extremely rare. Any part of the larynx may be affected, and the ulcers may present every variety with respect to number, size, and form. They are less common in the trachea, and still less so in the bronchi. They may result from acute as from chronic inflammation; they are not rare in variola. Ulcers are commonly limited in depth by occasioning deposition into the sub-mucous cellular tissue, but sometimes they cause perforation into the contiguous parts. Perforation, however, more frequently commences externally, in consequence of pulmonary vomicæ, tubercular bronchial glands, diseases of the aorta, œsophagus, and thyroid gland.

Here we must conclude, and we can only repeat, that we wish well to both the gentlemen whose works we have been noticing. Both are able, both industrious, both we have the honour of knowing, and the pleasure of esteeming. It is for the public to decide on their comparative merits, and we trust that the public will afford encouragement to either. As future fasciculi appear we shall introduce them to our readers.

XI.

MEMOIR OF THE LIFE AND MEDICAL OPINIONS OF JOHN ARMSTONG, M.D., TO WHICH IS ADDED AN INQUIRY INTO THE FACTS CONNECTED WITH THOSE FORMS OF FEVER ATTRIBUTED TO MALARIA, OR MARSH EFFLUVIUM. By *Francis Boott*, M. D. Volume the first, pp. 616, with a profile of Dr. Armstrong. Baldwin, Feb. 1833.

THE biographer was a favourite pupil, and latterly co-lecturer with Dr. Armstrong, having enjoyed the confidence and the friendship of that distinguished physician for the last ten years of his life. Dr. Boott must therefore be well qualified (as far as intimate knowledge of the deceased goes) for the task which he has undertaken, though some acquaintance with the illustrious dead, and a careful perusal of the memoir before us, have induced a suspicion that friendship, we might say enthusiastic admiration of the talents of his preceptor, has concealed from the biographer's view every foible which Dr. Armstrong, in common with humanity, must have possessed,

however small in number or trifling in kind. This, indeed, is an amiable failing on the part of the biographer; but we suspect that the portrait would have been nearer to nature, and therefore more valuable, had the shades of weakness been skilfully introduced among the prominent features of strength. Dr. Armstrong had such a preponderance of virtues, talents, and acquirements, that the shades in question would have been a relief to the contemplative eye, without being of the slightest disadvantage to the fame or character of the deceased. When a biographer expressly declares that "he knows of no defects in the moral nature" of the deceased, our inference must inevitably be, that the biographer has been a superficial or a partial observer;—since no man ever yet existed on this earth—(with one exception)—who had no "defects in his moral nature." But more of this hereafter. We shall now give a condensed outline of Dr. Armstrong's life.

Dr. A. was born at Ayres Quay, Bishopwearmouth, in May, 1784. His parents were of humble origin—his father having received no education, and being manager of a glass-work—but though untaught, he was possessed of superior natural abilities. To his mother, a Miss Robson, Dr. A. is supposed to be indebted for the advantages of education, that amiable woman having exerted her slender means for his support during the period of studies, both at school and at the University. The youth had been put to school at a very early age, but at the expiration of some years, it was found that he had not acquired the most simple elements of learning. He was then removed to another school, where he was at first, "considered by his friends as incapable of learning any thing!" This, however, must have been owing to mismanagement, for he soon made good progress under a new tutorship. He acquired confidence in himself, and evinced the laudable ambition of even excelling his competitors in erudition. He left the school at the age of 16 years, and was apprenticed to an apothecary, Mr. Watson, at Monkwearmouth; but soon took a dislike to the profession, and returned home, where he led a desultory sort of life for two or three years. An exertion was then made by his humble parents, and the youth was sent to Edinburgh, where he was obliged to use the most rigid economy. During the desultory years abovementioned, it appears that Dr. A. formed several visionary schemes for his future life, one of which was, to go to London and try his fortune on the wide but perilous ocean of literature.

"He early showed a taste for poetical composition, and wrote several fugitive pieces which attracted the notice of his companions. He frequently mentioned to me that, while he was uncertain of his future career, he meditated writing a tragedy on the story of Boethius, whose character and fate, as recorded by Gibbon, had made a strong impression on his mind, and that he had entered so far upon this ambitious attempt as to sketch out a plan of the work, and an outline of the principal characters. This idea I think never entirely deserted him, for he often spoke of it, and seemed to wish for some relaxation from the anxious duties of his profession, that he might indulge in literary pursuits." 5.

Dr. A. graduated in June, 1807, and settled the same year at Sunderland. Here he had the stimulus of necessity to sharpen his intellects and quicken his industry. A circumstance here occurred which proved very fortunate for the young physician. There was a wealthy invalid in Sunderland, with whose brother Dr. A. had become acquainted at Edinburgh. He

had chronic dysentery or diarrhœa for more than two years, which had baffled the skill of all the medical men of the place. Being fresh from the prelections of Hamilton, Dr. A. had recourse to purgatives, by which the complaint was cured. The praises of the youthful Doctor were for ever on the tongue of the grateful patient—and there is no doubt but this proved an extremely happy hit of the young aspirant for professional fame.

During the ten years that he practised in Sunderland, he contributed several papers to the Edinburgh Medical and Surgical Journal—especially on Brain Fever from Intoxication—on Puerperal Fever, &c. In 1813 he published "Facts and Observations en Puerperal Fever," a work which first brought him into notice, and to which he bore the love of a parent to the latest day of his existence. His mind was now drawn particularly to the subject of fever, and in 1816 his celebrated work on typhus appeared, and raised him, as it were, per saltum, to a high eminence in his profession. We believe we were the first to give a public expression of approbation to the work, for on the first of January, 1817, we commenced a series of reviews of it, which tended not a little to excite the attention of the faculty to the work reviewed, on both sides of the Atlantic. One short quotation will show the manner in which we spoke of Dr. Armstrong's book. "It stamps the reputation of its author with a character so indelible, that TIME, which soon washes away all subordinate impressions, will only render its features more conspicuous."*

Dr. A. wrote, in grateful terms, to the editor of this Journal, and an epistolary correspondence, followed by personal intimacy, was the result. We know, both from oral and literal communications, that the review in question first suggested the idea of removing from the confined and narrow scene where Dr. A. then practised, to the boundless theatre of the metropolis. This idea was strengthened by the Editor's announcing to Dr. Armstrong, his own intention of abandoning provincial practice, and of settling in London. In fact, these two gentlemen took up their residence in the metropolis within six months of each other, Dr. A. having the start of Dr. Johnson.

In February, 1818, Dr. A. took apartments in Great James Street, Bedford Row, a most gloomy street for a young physician to settle in, on first coming to the grand vortex. We are quite certain that much of the despondency of mind which Dr. A. was subject to during the first year or two was occasioned by the gloominess of the street.

"All those domestic sympathies upon which he so much depended for happiness were far removed from him, and he felt as it were alone in the world, anxious about his present and uncertain of his future fortunes. He has often told me that the loneliness of his situation at times overpowered him; and that so oppressive was the busy scene around him in which he stood a stranger, uncared for and unknown, that he sometimes found relief in tears, and tried to drown the consciousness of sorrow, by seeking sleep in his darkened chamber at noon." 22.

It was during this period that we became intimately acquainted with Dr. A.

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* Medico-Chirurgical Journal, January, 1817. The Edinburgh Journal only devoted four or five pages to the examination of Dr. A.'s work.

there being, unfortunately, but too much leisure time on hand, giving occasion to almost daily reflections on the past, the present, and the future. A few feeless days would give rise to the most lugubrious prophecies, while a little sunshine would change all again to sanguine anticipation.

It was in the Summer of this year that Dr. Armstrong was rejected at the College of Physicians, an event that formed an epoch in his life, and, we are quite confident, accelerated his death. It seemed to precipitate him into ruin, by disqualifying him for the office of physician to the Fever Hospital, for which he was a candidate—and by proclaiming to the world that his book was an imposture and himself an ignoramus. But the event was just the reverse of what himself, his friends, and even his enemies (if he then had any) anticipated. The *re-action* raised him up numerous advocates in the profession—and even in the managing committee of the Fever Hospital, the standing law of the institution was suspended, and he was elected physician in the teeth of the Warwick-lane rejection. But these were minor consequences. The wound which his feelings suffered by this insult, festered till the latest day of his existence. Its smart proved a constant excitement and stimulus to industry, prompting him to almost superhuman exertion, in order to wipe off the disgrace and revenge the affront. Every one who has been personally acquainted with Dr. A. or who has heard his lectures, must remember the tone of indignation with which he always spoke of the medical institutions of this country.

He owed his success, in the opinion of his biographer, to two causes.

Those members of the general profession who had once experienced the benefit of his counsel and assistance, could seldom be induced to recommend any other physician, so strongly impressed were they with the simplicity, the originality and success of his views and practice: and those families who had once had an opportunity of feeling the effects of the gentleness and delicacy of his manner, could think of no other adviser." 33.

We now find him physician to the Fever Hospital, and residing with his family in Southampton Row. Every one supposed he was rising fast into practice and reputation; but the truth was, that his finances were becoming exhausted, and he was a prey to the most dreadful anxiety. This we know from personal acquaintance, and it is corroborated by Dr. Boott.

"An anecdote, connected with the period of his greatest difficulties, in the year 1820, when his funds were nearly exhausted, is too honourable to himself and to the late Mrs. Oliphant, of Gask in Scotland, to be omitted.

He had naturally been led to take an unfavourable view of his prospects, from the prejudices excited against him by the conduct of the College of Physicians, and from an experience of the unavoidable expense attending a physician's opening career in London, which appeared the more formidable to him, from the injury that he imagined had been done to his reputation. His mind was at one time so much a prey to anxiety, that he entertained serious thoughts of removing from town. This idea was communicated to Mrs. Oliphant, in whose family he had practised for several years, and to whom his worth was fully known. She immediately remonstrated against it. With a delicacy which added to the extent of her kindness, she advised him to set up his carriage, and insisted that he should draw upon her banker for any sums he might require, till his income should prove equal to his wants. This noble act of devotion to a pure and exalted friendship, was honoured as it deserved to be; for Dr. Armstrong availed himself of the liberal offer, and the fruits of this beautiful instance of mutual confidence were to remove at once the appre-

bensions he laboured under, and to fortify his mind with a confiding hope of ultimate success. He never spoke of this disinterested act of friendship without emotion, and he always attributed his subsequent prosperity to it, as it reconciled him to the difficulties he had to encounter, and enabled him to employ his mind, unfettered by anxiety to the discharge of the responsible duties of his situation as Physician to the Fever Hospital." 62.

This anecdote may prove valuable to some youthful aspirants for metropolitan fame and fortune, who may think that Dr. Armstrong's talents and writings secured him success from the moment he appeared on the great theatre of London. The fact is, that had it not been for the timely succour of Mrs. Oliphant, Dr. A. would have been obliged, in all probability, to quit the metropolis, and end his days in some obscure provincial town. We know of more than one, two or three meritorious individuals, who, having acquired some notice by their writings, have ventured into the whirlpool of Modern Babylon, with the sanguine hope of soon rising into eminence—too soon, alas! to be awakened from their golden dreams by disappointment and poverty!

Before quitting this part of the subject, we may here state our belief, that Dr. A.'s rejection at the College of Physicians was not owing to any hostility on the part of the censors, but to the antiquated and ridiculous system or mode of testing a medical man's acquirements by a string of questions in a dead language. Dr. A.'s classical education was, confessedly, neglected, and he had made no preparation for the examination, when he was suddenly called upon to undergo the trial, in consequence of the canvass for the Fever Hospital. We know that his pulse was 130 when he presented himself in Warwick-lane, having been exhausted by fatigue and heat that day. He was, in fact, in a nervous fever at the time, and we have no doubt that he stumbled in the majority of questions put to him by the learned body at the Censor's Board. The writer of this article was examined on the same day when the late Dr. Good was rejected. With not a tenth of the medical learning possessed by that distinguished author, he easily passed the Board by maintaining tranquillity of mind, and by not embarrassing himself with attempts to clothe the A. B. C.'s of physic in fine Latin. The examples of Drs. Armstrong and Good, and the impression which their rejection by the College made on the public, have been serviceable to the Board of Censors ever since. They have lowered their tone, and taken care not to trifle with the feelings of the community by similar expositions of the bad system of examination to which they are tied down by monkish regulations.

In 1821, the chief engine of Dr. Armstrong's success was put in play, on the commencement of his lectures in Maze Pond, at Mr. Grainger's theatre. The impassioned manner in which Dr. A. lectured, and the flow of language which was at his command, rendered him extremely popular, and insured him success. In 1826, he opened another school in Little — Street, Soho; but it must be confessed that this was a complete failure, though his biographer attributes the abandoning of the scheme to want of care and health. We have no doubt indeed, that his exertions at this period undermined his health. His ambition was boundless, and he grasped at more than human nature, or, at all events, his own constitution, could possibly accomplish. We have reason to believe that, in 1828, he was in the receipt of from three

to four thousand pounds per annum. Fame magnified this to double its amount; but we venture to assert that we have placed his practice at the highest pitch which it ever attained. And truly it was a splendid point to attain in the course of ten years residence in the metropolis, where men of the highest talents and acquirements too often live and die, without ever arriving at half such an income from their practice.

Dr. Boott has omitted many particulars in the life of his favourite preceptor, which are familiar even to his common acquaintances. It is well known that Dr. Armstrong always had a hankering for the west end of the town. His usual observation was, that although he rose in the East he should like to set in the West. He had all but determined on taking a house in Cavendish Square a few years before his death. Though no admirer of courts or palaces, Dr. A. had probably a wish to enlarge, or even to change, the class of patients among whom he chiefly practised. Russell Square, the terra incognita, as Theodore Hook pronounced it, is neither City nor West End, but almost entirely composed of legal and mercantile inhabitants. It is very likely that the ardent and imaginative mind of Dr. Armstrong longed for change of scene and new sources of excitement. The projection of the Dean-street school was, perhaps, a part of the plan of migration, which, however, was never put into execution.

It was in the Winter of this year (Dec. 1828) that Dr. A. manifested symptoms of fixed and serious disease. He had cough, which he attributed to public speaking; and his bodily debility he attributed to fatigue. Before he left Sunderland, however, he was affected with a cough, which created some apprehension even in his own mind, as was evident from certain expressions in a letter to the Editor of this Journal in 1817. Dr. A. was obliged to interrupt his Autumnal course this year, for a few weeks, and go into the country, but recommenced in January, 1829. From this period to the day of his death, the struggle between energy of mind and disease of body was most melancholy to behold. It is to be regretted that neither Dr. A., nor any of his friends, entertained suspicions of his health till a fatal malady had taken deep root. But even when the alarm was universal in the family and friends, the patient's obstinacy baffled every means of arresting the progress of the disease. "He was at all times impatient of advice, and would seldom permit his medical friends to counsel him." Thus, in the middle of February, 1829, he was obliged to suspend his lectures, and was prevailed on to go to Seven Oaks, in Kent, where he obtained immediate benefit, his cough almost leaving him, and refreshing sleep having returned. But the moment he got a little better he returned to the oar, and worked like a galley-slave, till another fit of exhaustion deprived him of physical power to proceed. On the 3d of March (29,) he had the imprudence to dine with the Webb-street pupils at the Freemason's Tavern. In the beginning of May he was forced to retire to Burford Bridge, near Dorking, and there, for the first time, he expressed apprehension that he laboured under phthisis. Yet, on the 17th of the same month, he returned to town—recommenced practice—"and said he had found all his unfavourable symptoms rapidly decline." He soon again relapsed into debility, became very irritable, "and seemed at times to look hopelessly around for relief." Early in June, Dr. Boott entreated him to leave off lecturing for

several months, and seclude himself in the country; but he clung so much to the practice of his profession, that he would not recede out of the reach of London daily. However, he was soon obliged to secede from the task of delivering the Summer course of lectures, and compelled Dr. Boott to undertake the formidable post of substitute. Dr. A. now went to Worthing, with his family. There he seemed to have got a sudden accession of strength, so as to be able to walk several miles along the beach on the evening of his arrival. The beach, therefore, became his favourite resort, and he often sought to cool his hectic fever by the refreshing sea-breeze. He was now sanguine of recovery, and even his friends indulged the same fond hope. The improvement was but transient.

"The improvement in his health and spirits was but transient; yet the good effects he had so uniformly though transiently experienced from change of scene, led him to indulge in sanguine hopes of the future, and to take at times a different view of the nature of his disorder from that which he expressed to me on the morning of his leaving town for Box Hill. He would seldom admit to those about him that there was any thing serious in his case, and he seemed occasionally to have almost convinced himself that he laboured under chronic pleurisy. He complained of the excitement which the visit of his medical friends produced, and would not allow them to see him. When pressed upon this point, he constantly urged the necessity of complete seclusion, so that I had no opportunity of seeing him for several weeks after he left London." 79.

At length Dr. A. desired to see Dr. Boott, and the latter repaired to Worthing in conjunction with Dr. James Clark. They found Dr. A. so weak as to be unable to walk across the room. He lay on the sofa, with his watch frequently in his hand, counting his pulse. Dr. C. considered that there were no hopes left. His cheerfulness, however, had not entirely deserted him, and he sometimes rallied his friends around him on their sombre looks. They left Worthing, and shortly afterwards Dr. B. received a letter from Mr. Spearman, Dr. Armstrong's brother-in-law, from which we shall quote a remarkable passage.

"His night perspirations have left him—his fits of excitement are very much abated—his cough less frequent, and we all think he improves in appearance and flesh. He is also much more comfortable and happy in mind, though I know not whether to think the improvement of his spirits a favourable symptom as regards his disorder, of which he speaks in more sangnine terms than he has done since he came here. He told me, after you were gone, that he was quite satisfied both yourself and Clark thought his case hopeless, and that he saw through your evasions of his questions on this point, but that such a conclusion was by no means warranted by the symptoms and circumstances of it. In short, he seems determined to recover, in order to confute you both. Pray God he may? but I know not whether we may rationally indulge a hope." 82.

On the 4th August, (1829.) Dr. A left Worthing, dissatisfied with the air of the place, and came once more to Burford Bridge, where he again seemed rapidly to improve under the influence of the genial atmosphere of the place. From this place Dr. Boott received a letter prohibiting a visit from his medical friends.

"'I shall say something about your health, connected with lecturing, when I see you. But you and Clark must defer your visit for two or three weeks, for that at Worthing shook me dreadfully, and I have not yet fully recovered from the depression and collapse induced by Clark's visit the other night. Thus my extreme excitability

converts the kindness of my friends into a cause of aggravating my malady. If I recover, I shall give you and him a lecture for your want of *tact*, in not having taken this excitability into account. When I get over my depression and collapse completely, —and they are much lessened to-day,—I shall be better, I trust. Pray tell Clark to defer his visit awhile. But I have been scolding you when I should say 'God bless you.'" 84.

He began to take exercise in the open air, and passed the greater part of the day in walking or riding. On the 3d September, he wrote to Dr. B. that on the whole, he was better, and determined to be well in five weeks. On the 15th September Dr. B. ventured to go down and see him. Dr. B. was then convinced that no essential change for the better had taken place. Yet he was able to take a long walk, though at Worthing he could scarcely stand on his feet. He had adopted a more generous diet, and took ale. Yet he had a presentiment of the fatality of his disease, on account of a symptom which caused great alarm. This symptom was more explicitly adverted to on the 25th of the same month.

"After dinner he took me to the beautiful grounds of Mr. Dennison, talking all the time we ascended the hill; and in the evening, till as late as eleven o'clock, we walked to Leatherhead and back. On our return we observed some glow-worms on a bank by the road-side, and he caught several and desired I would take them to the children. He did not complain of cold, though the night air was chill, and a dense fog hung over the bottom of the valley. I repeatedly urged him to shorten our walk; but he remarked that he had generally been out as late, and that he slept the better for it. He again alluded to the symptom of which he spoke before on my late visit, and said that it was a death-watch forewarning him of his doom. This was the *metallic tinkling* of Laennec, which he compared to the faint vibration of air, caused by the gentle stroke of the hammer of a silver bell. He spoke of it as always present to his ear, and that it was a fatal indication." 89.

This is a very curious circumstance. There was a large excavation in the left lung, it is true; but this was not a case, according to Laennec, where such a phenomenon as the tintement metallique should have presented itself. We are confident, indeed, that the phenomenon has not yet been clearly accounted for, and that it may be present in different and almost opposite conditions.

While the above subject was present to his mind, he spoke of his death as inevitable; yet, the very next day, we find Dr. A. forming the plan of a journey to Durham, and looking forward with pleasure to his return to practice in London! On the 2d October he came to town, apparently much better, and with powers of body greatly renovated, though the emaciation continued. These and other circumstances render it probable, that a secession from London turmoil, and a tour of health for five or six months, would have saved this valuable life! On the 8th October, he left town for Durham. He travelled in an open carriage, and arrived in Durham on the third day, without fatigue; but he soon had a relapse there, and his visit to the place of his nativity did him no good. He returned to London on the first of November.

"It was most affecting to witness the persevering but ineffectual efforts he made to rally his sinking energies, and to enter once more upon practice. His mind seemed to infuse vigour into his wasted and enfeebled frame, and for two or three weeks he was much occupied in visiting patients, in and for a distance of several miles from

town. But he came home always in a state of great exhaustion, and it was painful to observe his instinctive promptness to attend to the calls of duty, blended with the incapacity of exerting himself without greatly aggravating his sufferings. He could not be persuaded to abandon all thoughts of his profession; and it seemed a relief to him to feel that he was yet capable in some degree of being useful to his family." 92.

On the 19th, Dr. B. was hastily summoned, and found his afflicted friend in great distress, under the idea that one of his ribs was fractured, and that this had all along been the cause of his illness. The suspicion was entirely groundless. He soon after this took to his bed, never more to rise from it. On the 7th Dec. a consultation took place, and Dr. Davis, of Broad-street, examined with the stethoscope—far too late. An excavation was found in the upper part of the left lung. On the 12th Dec. our author was called to him.

"About four o'clock he called me, and repeated the summons before I could reach his bed side; and when I did so, he said, 'I am too impatient, and grieve to give so much trouble. In writing my Life, which can only be useful as a history of my opinions, enter into no controversy about me, or my cause of offence against the College. And if you are censured, say it was my last request, that I might die in the consciousness of being at peace in the grave. I die in peace with all mankind.'" 99.

He died that night. The following are the minutes of the post-mortem examination.

"The body presented the appearance of extreme emaciation: the adipose substance was totally absorbed, the muscles unusually red, and their texture of modern firmness.

On opening the chest, the upper third of the left lung was seen firmly adhering anteriorly to the costal pleura; a large tubercular excavation corresponded in extent to that portion of the lung, capable of containing from twelve to sixteen ounces of fluid. The whole of the anterior parietes of this cavity were not above two or three lines in thickness, formed of condensed pulmonary structure, and firmly adherent in the whole of its extent to the pleura costalis. The posterior parietes of the excavation were considerably thicker, and traversed by a number of bands of pulmonary structure, studded with tubercles, constituting what are called '*columns*' by Bayle. The cavity was partially lined with a false membrane of various consistency, in some parts soft and easily scraped off with the scapel, in others of a cartilaginous density. Various bronchial openings existed in the right and upper portion of the excavation. The remaining portion of the left lung was filled with tubercles in all their stages,—the grey, the crude, the softening.

The upper half of the right lung was filled with tubercles accumulated in rounded masses, the interval between these masses being tolerably healthy. There was also in the apex of the same lung an excavation capable of holding a small sized walnut. This was lined with a firm membrane. The inferior half of the right lung presented a few disseminated tubercles, but its structure was not materially different from the healthy state.

There were but few adhesions; the heart was small, its texture soft, but not diseased.

The direction of the stomach was more perpendicular than usual; its mucous membrane was generally softened and reddened.

The intestines were healthy, except near the ileo-colic valve, where a mass of the glandulæ aggregatæ were in a state of hypertrophy.

The rest of the viscera were in their natural state, with the exception of the gall-bladder, which contained a stone of an oval form, about the size of a hazlenut.

Thomas Davies, M. D.
George Langstaff,
George Pilcher,
Francis Boott, M. D." 103.

This talented physician was in the 46th year of his age, when death deprived the world of his talents and his family of their supporter! He left six children—three sons and three daughters. From Dr. Boott's portrait of the author we select the more important features.

"In person Dr. Armstrong was tall and thin. His manners were gentle and unpresuming, almost diffident in the presence of strangers, exclusively domestic and retired from the world, when the calls of duty did not require his intercourse with it. His nature was candid, confiding, unsuspicious; his sensibilities lively and acute; his tastes discriminating and refined. There was a simplicity and innocence of mind and disposition about him which endeared him to all who knew him intimately, and which won for him especially the confidence and attachment of the young." 104.

"He carried the sagacity which he displayed in his profession into his observations of life, and none of its most delicate and evanescent beauties seemed to escape his notice. It formed one of the peculiar charms of his conversation to observe from it how quickly and sensitively he perceived and felt those instinctive actions and expressions which give individuality to character." 105.

"Though susceptible of a playful humour and an occasional gaiety of feeling, he was naturally of a serious cast of character; and from the absorbing interest he took in his profession, the distressing scenes he moved in, and the thoughtful bent of his mind, he often wore a look of abstraction and concern. He was wholly unsuited to mix in the pursuits of fashionable life. He had no community of taste with its admirers, nor capacity to appreciate the trifling objects of momentary interest which the fluctuating surface of society presents to those who are content with its fleeting novelties. His only sources of happiness were in the contemplation and practice of his profession, in the hallowed seclusion of home, and in the society of a few intimate friends.

He was more exclusively and anxiously devoted to the duties of his profession than any man I ever knew. Nothing it required ever appeared to him an encroachment upon his time, or an invasion of his ease. He never refused to attend to the calls of distress, and was always most liberal of his time and advice to the poor.

His pupils were warmly attached to him, from the interest he took in their improvement and their comforts. He watched over them in sickness with paternal solicitude. He blended so much of the generosity of his nature, the sensibility of his feelings, and the purity of his tastes in his lectures, that no public teacher was ever held in higher admiration or respect. No one who was unable to incur the expense of taking his tickets was ever dismissed as an unsuccessful applicant. Such, indeed, always found in him the friend in need; for he obtained for them free admission to the lectures of his colleagues, and assisted them in other ways to complete their medical education." 107.

Dr. Armstrong was fond of poetry, and Dr. B. has introduced several specimens of his honoured preceptor's composition. We select the last, because it is the shortest as well as the best. It was written in 1808.

"THE WISH.

Obscurely let me live and die—
But not unknown, unhonour'd lie;
Oh! may the poor and wretched trace
My grave in some sequester'd place,
Where nameless streams my requiem sound,
And nature breathes in beauty round.
There, ardent, may their blessings rise,
Like incense offered to the skies." 110.

The biographer concludes, as we before mentioned, by asserting that he could perceive no defects in the moral character of Dr. Armstrong. We doubt the propriety of this declaration, as it savours more of romance than real history. No man was ever without defects both in mental and physical constitution. To conceal or overlook the foibles of our friends, in biographical delineations, is not profitable to the living. It is like publishing all our successful cases, and keeping the unsuccessful ones in the back ground. We who have uniformly upheld the character and praised the writings of Dr. Armstrong, during life, need not dread the charge of envy, hatred, or malice, if we acknowledge that our friend and favourite author was not exempt from defects, no more than his fellow creatures. But we refer our readers to our Journal for January 1830, where we have given a full and a candid estimate of Dr. Armstrong's character, and where we have pointed out what we conceive to have been defects in that talented physician. Dr. Boott has executed his melancholy task with all the good feeling of an admiring pupil delineating the character of an almost adored preceptor. If, in the performance of this difficult duty to the dead and the living, Dr. Boott has been unwilling or unable to discover any weak point in his favourite tutor, the failure is at least amiable, if not praiseworthy, and we hereby tender him the homage of our respect.

The greater part of the volume is occupied with two subjects—one, a kind of review or exposition of Dr. Armstrong's opinions respecting fever—and the other a long and laborious survey of the fevers which prevail in the United States, from the latitude of 19° to that of 42°—viz. from Vera Cruz to Boston. In all the fevers and types of fever, including yellow fever, typhus, bilious remittents, and intermittents, the Doctor recognizes but one general remote cause—malaria, whether the result be marsh effluvium or animal and vegetable decomposition. The various fevers themselves, he considers as only modifications of the same disease, dependent on the climate of the place, and the greater or less intensity of the cause. He proscribes contagion from the agents that produce it—at least that high grade of it denominated yellow fever.

We doubt whether we should be able to give a satisfactory analysis of this, the greater part of the work, being itself indeed a review. Nevertheless we shall endeavour, if possible, to present our readers with a succinct view of that portion in our next number. Meantime we recommend the work to the public in general, and to the numerous pupils and admirers of the late lamented Dr. Armstrong in particular.

XII.

A DEMONSTRATION OF THE NERVES OF THE HUMAN BODY. CONSISTING OF FOUR PARTS. Part III. THE CEREBRAL NERVES. By *Joseph Swan.* Price three guineas and a half.

WE beg to solicit public attention to this splendid work. There are occasions on which the language of consistent approbation would seem to be mere encomium, and this is one. The work of Mr. Swan is creditable not only to himself, but to his country; a memorable evidence of spirit and industry, and a splendid specimen of art. There is no other country in which such anatomical engravings have been published, or perhaps in which they could be published, and it is melancholy to reflect, that even here they must be, comparatively, published in vain. It is impossible for professional men to purchase out of their scanty earnings such magnificent and necessarily costly books. Mr. Swan knows this, and knowing it, perseveres: a rare instance of noble public spirit, and an evidence of a generous and manly mind. Mr. Swan is content to labour for reputation, and to incur a sacrifice both certain and severe without even a faint hope of pecuniary reimbursement.

Were our medical corporations such as they should be, were they organized for professional advantage and general good, they might patronize with effect undertakings of this description. The College of Surgeons should superintend the production of a system of anatomical engravings which should be of real service to anatomy, and raise the scientific character of the nation. The greater part of the profession have to struggle for the means of existence, and they cannot embark in speculations which entail pecuniary loss, nor have they the power of encouraging those who do embark in them. Even they who have better prospects and look to fairer days are compelled by the state of society, to direct their attention to that which is calculated to increase their chances of obtaining wealth. We need scarcely say, that anatomical researches are not so calculated.

However the facilities for the prosecution of human anatomy may be augmented, there is still a strong necessity for anatomical plates. If this be granted, and the demand for such plates does, we think, render argument useless, it necessarily follows, that the better they are, the more satisfactorily will they fulfil their objects. But individuals must labour for reward; there are few so public-spirited as to supply a public want at a personal risk or a private loss. The consequence is, that those who attempt to meet the demand are induced to offer cheap and inferior articles. It is only a public body which could command the means or would incur the risk of supplying what is wanted. We do not however hesitate to say, that our College of Surgeons should superintend the publication of a series of anatomical plates, a series which should compete with these Demonstrations of the Nerves? nay, more, we do not hesitate to express our belief, that if such a plan were adopted by the College, with the utmost possible economy, consistent with the end in view, with liberality in the design, and cheapness and convenience in the execution, no loss would accrue to itself and an infinite gain and much satisfaction to the profession.

It is too generally believed, and there is no utility in blinking the matter, that the College has existed and does exist too much for itself and too little for the body politic. It is easy to foresee that changes in its constitution are impending, and it is equally easy to conceive that such changes must lead to measures of more general benefit than have hitherto emanated from the Corporation. Among such measures we would certainly place, the execution of such designs as those we have alluded to, designs too extensive to be carried into effect by private individuals, yet not too vast for corporate associations.

We say it is easy to foresee that a change is impending over our Colleges. They are not what they have been, they are not what they will be. Those changes we cannot pretend to specify, but of this we may be sure, that their aim *must* be to render the establishments more suited to the spirit of the day, and the exigencies of the profession. Colleges in fact we have none. Three Corporations there are, but they are no more the Colleges of the profession than of the order of the Jesuits. The officers and the members, the notables and the tiers état, are like Nebuchadnezzar's image, iron and clay, things which may by force be soldered, but can never be amalgamated. Nay, even the very soldering is gone, and, as in some old building, time and the weather have acted on the *clamps*, and the necessary chemical action of the discordant materials on each other has loosened the hold and destroyed the connexion. We trust that the Colleges will reform from within before they are struck from without. We trust and indeed we believe that there are those amongst the Councils and Committees who can see clearly and resolve wisely, and whose discernment and decision will be productive of benefit to all.

It is not our present purpose to write an article on medical reform, but we were led not unnaturally to indulge in these reflections, on contemplating the splendid work before us, a memorial at once of private enterprise andprivate loss. We will desist.

The Part before us contains seven Plates of the Cerebral Nerves. It consists of a description of the nerves and a copper-plate engraving or engravings, accompanied with a correspondent outline and explanatory letter-press, representing each nerve in as many points of view as its character requires. As a work of art it possesses merit of the highest order, but its merit is equally great, if we may be pardoned the antithesis, as a work of nature. We hardly know which we should the most admire, the skill of the dissector who prepared, or of the draughtsman who delineated. If true anatomy can be learnt from plates it would be learnt from these, and he must be a narrow-minded thinker who could dream, after looking at these, that anatomical plates are injurious. When the memory shall convey images as definitely and as permanently as the graver, then, and not till then, will good anatomical plates be unnecessary. Are maps of no service to those who have traversed or who are to traverse an intricate country?

Were we to select engravings of particular beauty we should pitch upon those of the fifth nerve, and of the portio dura of the seventh. But the delineations of the nerves of the tongue and of the pharynx are almost equally beautiful and must have been much more difficult. We must speak as favourably of the descriptive portion; in short, it is a work which transforms criticism into eulogy, and a critic into an advertiser. We suffer the meta-

morphosis most willingly, and happy should we be could we induce our readers to encourage the work by subscribing to it, or rather, could we give them the means of following what must be their inclinations. Book societies and the schools of medicine should expend their patronage on what is truly a national publication.

XIII.

Mémoires de l'Académie Royale de Medecine. Tome Deuxieme. 1er et 2e Fascicules. Avec Planches. Baillière, Paris et Londres, 1833.

We are indebted to M. Baillière for this and for many other valuable French works which we propose to notice. We propose, in the subsequent numbers of this Journal, to dedicate more space than we have lately done to continental medical literature, We are induced to do this for two good reasons :—first, because it contains very much that is valuable, and secondly, because what it contains is inefficiently desseminated in this country. Our relations with France are becoming every day more close, and it is our mutual interest that it should be so. This is not more true politically than scientifically, and whilst we are as anxious as any to uphold our national reputation, we must candidly avow that France can boast of a body of scientific men, which would shed a lustre on the brightest era of civilized nations. Her institutions are, we speak advisedly, preferable to our own—they breathe a more liberal spirit, and encourage a more generous emulation. We are too much a people of shopkeepers.

We shall take all possible opportunities of laying before our readers the substance of the best French works that appear, and we venture to hope that our plan will not be unproductive of benefit. We cannot carry it into full operation in the present number, but shall merely content ourselves with a glance at one or two recent publications.

That now before us is the production of the Royal Academy of Medicine. It contains an elaborate paper by M. Breschet, which we will notice more at length by-and-bye, and memoirs from the pen of MM. Lisfranc, Ricord, Duchesne, and other gentlemen. The paper to which we will first direct attention is by M. Ricord, surgeon to the Hôpital des Vénériens, and purports to be founded on some facts which he has observed in that institution. We shall proceed to the consideration of the paper with as little preface as possible.

It would be impertinent in us to tell our readers that the venereal disease is surounded with difficulties ; they well know that. But it might appear more startling to some were we to assert that the late investigations on the non-administration of mercury have been productive of much general delusion. Yet, startling as it may appear, such we believe to be the fact. Yes, we believe it to be the fact, that much delusion exists with respect to the practice of treating the venereal without the aid of mercury, and much as

the experiments of the army Surgeons have been lauded, and great as has been the benefit accruing from those experiments, we think they have been too implicitly trusted to, or too narrowly reasoned on. This may sound to many like a heresy: we will not at present attempt to defend ourselves, but we mention our opinion, not lightly taken up, as an evidence that the investigation is not exhausted, and that much is necessary to produce general conviction on any essential point. Hereafter we may enter more in detail, and develop more particularly such ideas as we may be led to entertain upon the subject. We must confess that we think there is an opening for a really good and practical work on this disease. But to proceed to notice the facts and opinions of M. Ricord.

Of one hundred female patients in the venereal hospital, sixty, according to M. Ricord's computation, are affected with discharges acute or chronic, the blennorrhœa being always more common than the blennorrhagias. It is well known that women of the town are nearly always anxious to leave the hospitals as soon as possible, in order to return to their profession. As soon as the more prominent symptoms have disappeared, and when they are apparently approaching to a cure, they frequently elope. This is sufficiently common at the Lock Hospital in London. In Paris where, in order to follow their trade, they are under the necessity of possessing a certificate of health, it becomes an important matter to deceive their surgeons into granting it at as early a period as possible. The charge of the public health, on the other hand, being thus confided so especially to the surgeons, it becomes their duty to avoid intentional imposition and unintentional error. Now it must strike very many, as it certainly has struck us, that whilst venereal sores are extremely frequent in men, they are comparatively rare in women. Of the tenants of the Lock Hospital the majority of males have or have had sores, whilst the great majority of females have discharges. And yet those females being of the lowest class of prostitutes w ould probably be, and no doubt are the chief means of propagating sores. How are we to account for this anomaly? Are we to suppose that women having no sores will occasion them in men—that there exists therefore a considerable difference between the characters of the disease in the two sexes—or that sores do exist, but escape our notice. We shall presently shew that M. Ricord has in part explained this mystery, by shewing that ulcerations are not unfrequent in the deeper parts of the vagina, those parts where surgeons never search for them. But we doubt whether this is the whole of the truth, and we think, for reasons which we need not at present bring forward, that women *are* less subject to primary sores than men, and that males will contract sores followed, or liable to be followed, by secondary symptoms, from women that have merely discharges. To return to M. Ricord.

This gentlemen being convinced of the inefficiency of the usual method of examination, determined never to discharge a patient without inspecting the interior of the vagina and neck of the uterus by means of the speculem. The employment of this instrument has subsequently been enforced in every instance, and since it has been so, M. Ricord has been amply satisfied how inexact the common mode of exploration is. He entertains no doubt that the usual inspections of the public women of Paris are perfectly illusory, and offer no security. The fact has been already noticed by our own army

surgeons. One gentleman, we at this moment forget who, but we think it is Dr. Hennen, remarks that he was frequently astonished at the results of the examinations of the women at Valenciennes. They were found to have merely discharges, yet sores of all descriptions were frequent among the soldiers who cohabited with them.

Acute Blennorrhagia. It is commonly known that the whole genito-urinary mucous membrane in the female may be the seat of gonorrhœal discharge, but it is not commonly supposed that the urethra is much affected. M. Ricord, on the contrary, has found pus issue from that canal in ei ght cases out of twelve. The shortness of the canal, its position, and the frequency of micturition, frequently prevent this fact from being discover ed. But if a proper time be selected, and the finger introduced into the vag na, so as to compress the urethra from behind forwards, M. Ricord maintains that the fact will be found to be as he states it. All the females who had urethritis as well as vaginitis attributed their complaint to infection. M. Ricord has found acute buboes coexist with urethro vaginal blennorrhagia;—he has not found this to be the case when the vagina only was affected.

The following are the results of examination with the speculum in the state of acute blennorrhagia.

1. The mucous membrane merely unnaturally red throughout its whole extent.

2. In some patients this, attended with much heat, sensibility, and some tumefaction, has terminated without giving rise to discharge; in the majority of cases it has been succeeded by discharge.

3. In some women there were prominent patches, of various size, the redness of which was decided and terminated abruptly, whilst the remainder of the vagina was natural.

4. In some the vaginal mucous membrane presented a great number of reddish papulæ; in others it was merely spotted.

5. These different states coincided with vaginal secretions of different kinds: in one instance mucous and transparent, in another serous and red dish, in a third purulent.

6. In some of those with whom the secretion was reddish it sometimes became bloody; the reddest parts were then deficient in epithelium, and there was erosion of the mucous membrane; most frequently, however, these erosions gave rise to a purulent secretion.

7. One patient of very lymphatic temperament, affected with acute vaginitis, had the vagina studded with granulations, resembling the luxurious ones that form in scrofulous sores; in this case there was a profuse purulent discharge. M. Ricord has found a less degree of the same granular state, depending apparently on enlargement of the inflamed mucous follicles, in several patients affected with purulent discharges.

8. Three patients affected with recent purulent discharges, and sent to the hospital for gonorrhœa, had ulcerations of the vagina from three to six lines in diameter. The ulcerations were slightly infundibuliform, with excavated edges (bordés á pic) and greyish base. There was no ulceration of the external parts.

9. The different conditions of the vagina already mentioned were met with on the mucous membrane of the neck of the uterus, which in a number

of cases appeared alone affected. Sometimes that portion of the mucous membrane covering the os tincæ was very evidently affected.

10. Along with the inflammation of the mucous membrane, the neck was often found enlarged, and in some cases the body of the uterus appeared slightly tumefied; the secretions of the mucous membrane of the neck were like those of the vagina.

11. In many patients presenting on their admission puriform matter at the orifice of the vagina, unaccompanied by symptoms of inflammation in the internal genital parts, and in whom the discharge had only lasted a few days, the vagina has been found healthy throughout its whole extent, whilst the os tincæ, tumefied and red round its orifice, allowed a great quantity of puriform mucus to escape from its cavity, or from that of the body of the uterus.

12. M. Ricord has observed, in upwards of a hundred cases, the following circumstance. The mucous or muco-purulent uterine secretions so frequently met with in company with other affections of the vagina, or the neck of the uterus, and frequently called "whites," have always a glairy consistence, like that of white of egg; those of the vagina, on the contrary, have not that consistence.

13. In the acute stage, M. Ricord has found that the ulcerations of the neck of the uterus are situated nineteen times out of twenty at the orifice, and once in twenty on the circumference of the neck, more or less contiguous to the cul-de-sac, formed by the vagina with the cervix. Out of six cases of the latter kind, the ulceration in four was situated on the anterior surface, and in two on the posterior. This is accounted for by the fact that in prostitutes the uterus is commonly anteverted, so that the superior face of the neck looks forwards, and is therefore most directly exposed to infection.

14. The ulcers of the neck, whatever have been their precise situation, were eighteen times out of twenty of the elevated kind—the *ulcus elevatum*. Often they were a sort of granulations and mucous tubercles; frequently they resembled granulations in groups; and in one patient there were true pustules with a white apex. In some there was erosion of the mucous membrane, such as has been adverted to as existing in the vagina. In others, and M. Ricord possesses six cases of this description, the ulcerations near the orifice, stretching into the cavity, or placed on the circumference of the neck presented all the characters attributed to the true syphilitic chancre. It should be mentioned again that in none of these patients were there any external symptoms, nor any internal ones calculated to raise suspicions as to the existence of the legions enumerated.

M. Ricord next describes the appearances observed in chronic discharges.

1. The posterior part of the vagina is more affected than the anterior, the reverse being commonly the case in the acute form.

2. In some patients the mucous membrane is whitish, almost granular, and furnishes a lactiform secretion staining the linen white. In some this secretion becomes caseous, as it were, on coming in contact with the air, or on drying. When viewed around the neck of the uterus it greatly resembles the sebaceous secretion between the male glans and prepuce; this state may be considered as that of leucorrhœa.

3. The vaginal mucous membrane may secrete a serous fluid, staining the linen white, and having sometimes a red zone.

4. Most commonly the discharges in blennorrhœa were purulent, yellow, or greenish. The mucous membrane was then sometimes pale, at others thickened in different parts, appearing as if deprived of epithelium, or often reddened and softened, and looking like the conjunctiva in chronic ophthalmia.

5. Two patients presented in the posterior and deepest part of the vagina patches much redder than the remainder of the mucous membrane, bleeding easily, and giving rise to a purulent secretion. These patches were superficially ulcerated, and led M. R. to believe, prior to his examination with the speculum, that there was a slight loss of the substance of the uterus.

6. Along with the blennorrhagia M. Ricord found granular, pedicular, and cauliflower vegetations throughout the whole extent of the vagina, and on all the points of the vaginal region of the uterus. Sometimes the vagina alone was affected, sometimes only the neck of the uterus. In some of the patients nothing externally announced with any certainty the existence of these vegetations within, a more or less puriform chronic discharge being the only symptom. In one there existed at the base of a vegetation seated two inches behind the carunculæ myritiformes, a deep, elongated, irregular ulceration, appearing to have been the result of a laceration.

7. Catarrh of the uterus was found amongst the greater number of patients. The discharge from the os uteri was sometimes transparent, with the cervix pale; sometimes more opaque, with redness of the cervix, or even slight ulcerations of the orifice; sometimes purulent, with the cervix red and thickened. There existed also erosions round the os uteri, or even true ulcers, elevated or deep.

8. In one patient who had had many children, and in whom the cervix was much developed, with a very large orifice, nothing was seen externally; but on separating the lips of the os tincæ, by means of the speculum, there were seen on their internal surface ulcerations which extended into the uterine cavity.

9. These various ulcerations appeared to M. Ricord the most common cause of those interminable discharges, which, though termed leucorrhœal, are not the less contagious.

10. Finally, in some females muco-purulent discharge issuing from the uterine orifice was the only appreciable symptom.

M. Ricord discovered on the cadaveric examination of two patients, who died in the hospital, the following facts. In one female, who was thought to be affected with blennorrhagia only, there was found a deep infundibuliform ulceration, with a hard base, situated an inch and a half behind the carunculæ myrtiformes. In the other were two ulcerations, having a character similar to that of the preceding, but irregularly elongated in form, one upon the anterior lip of the os tincæ, the other extending into its cavity; the last was a little rounded.

M. Ricord mentions one or two facts on the subject of contagion.

A woman of the town, who had been under treatment upwards of a month for an *elevated ulcer* of small extent on the left side of the os tincæ, with slightly purulent uterine catarrh, but without any decided vaginal discharge, was examined with the speculum on the day of her dismissal. The only

thing which was observed was the circumstance that the ulceration of the orifice was not completely healed, a point, about the size of a large pin's head remaining, but apparently on the point of being cicatrized. The patient was dismissed. Immediately after her dismissal a pupil of M. Ricord's who had not had connexion for some time previously, had intercourse with her. He contracted an elevated ulcer at the base of the gland, and a bubo. The patient returned to the hospital two days after her dismissal. On examination with the speculum, nothing was observed in the external parts, but the neck of the uterus was red, a little swollen, the cicatrix of the ulceration broken, and this doubled in size and secreting a puriform discharge. The patient was kept in the hospital until she was perfectly cured.

A woman, just admitted, and affected with ulceration of the os uteri, deep but of small extent, and giving rise to a purulent discharge, unattended with any external ulceration, said that her husband had a chancre. This man was also in the hospital; there was a chancre at the meatus.

Three patients, two in the civil and one in the police ward, affected with purulent discharge and red ulcerated granulations of the os uteri, told M. Ricord that every time they had connexion with men, they communicated to them a violent gonorrhœa, but never chancre.

The following is the resumé of the facts observed by M. Ricord.

1. That the vulva is more frequently affected in blennorrhagia than in blennorrhœa.

2. That in chronic discharges, on the contrary, the deep parts of the vagina, the neck of the uterus, and its cavity, are more frequently affected.

3. That the different ulcerations are most frequent in the parts of the vulva situated anterior to the carunculæ myrtiformes, then on the neck of the uterus, and lastly in the deep parts of the vagina.

4. That vegetations are met with in the following order of frequency—vulva—vagina—uterus.

5. That the different lesions in the acute stage may exist consentaneously on different points.

6. That acute affections may be associated with chronic affections that pre-existed, and that they may be speedily cured, without the others being influenced.

7. That on the contrary the chronic affection commonly becomes more severe in consequence.

8. That the various lesions tend to produce similar ones by contagion, and that we must not admit that a severe gonorrhœa in a female can produce chancres in the male.

9. Finally, that a woman affected with gonorrhœa and chancres, and having connexion with several men, may communicate chancre only, or gonorrhœa only, or both at once.

We must say that we consider the foregoing facts extremely important, as important perhaps as any that have been elicited in modern times, with reference to the venereal disease. They add to our amount of exact knowledge, and every addition of this kind is a great gain. We hope we shall never again see such a work as Hunter's, a work unphilosophical in its conception and absurd in its conclusion, a work that never did good and never can do any. Based on an assumption purely gratuitous, it has led to ideas unnaturally restricted, and to practice mischievously empiric. Setting out

with the notion that syphilis has one peculiar form, and that the sore which he denominated chancre is that form, he has forced his disciples to come to the conclusion that syphilis has nearly deserted the earth, and that chancre has passed away with the Hunter's. Certain it is that such a sore is now comparatively rare, and that five or six cases of other sores are witnessed for one of it. But to return to our subject.

We have said that the investigations of M. Ricord have added to our amount of exact knowledge, and we need hardly say that without exact knowledge there is no true philosophy. They have contributed exactness to a subject in which it was particularly wanted, that of the female discharges. How often must surgeons have seen such a case as this. A gentleman presents himself with a primary sore, and it is necessary, or at all events judicious, to give him mercury. The female with whom alone he has been connected is examined, and merely a little discharge is discovered. The point seems difficult, but like all familiar difficulties, the surgeon gets over it without his suspicions being much excited or his faith in common opinions much shaken. He looks upon it as one of the difficulties of the venereal, and puts up with it.

All must be struck with the fact, that in men sores predominate, in women discharges. Nay, more than this. A woman has distinct secondary symptoms independent of the exhibition of a grain of mercury. Yet merely a history of primary discharge is obtained. Here it is commonly supposed that the woman errs from inaccurate observation, or that she intentionally deceives. But women will be admitted into a Lock Hospital with discharge, there will be nothing else discoverable, and secondary symptoms, eruptions, will occur under the surgeon's observation. Such facts are always blinked, for no man, and particularly no prejudiced man, will think much about what he does not wish to doubt.

The investigations of M. Ricord prove that we have laid up a false experience, that we know little, because our knowledge has been inexact. We must begin again. There is no disputing it. Every surgeon must use the speculum, at least we must use it where we can, and at no hospital should it be neglected. It is proved that ulcerations of the deep parts of the vagina and of the cervix and os uteri do frequently exist, when nothing but discharge is visible externally. That fact being known, what candid man would in future trust to others or himself, if means of arriving at the whole truth had not been resorted to in the investigation of the organs of the female? It is idle to say, that the use of the speculum is not new. Its general use, that is, its use in *all* cases is new, and that is the important point. In fact, the whole matter lies in a nut-shell, and none can mistake it. We have hitherto been treating as discharges only, what may have been deep ulcerations, or other lesions, accompanied with discharges. The doubt is sufficient to vitiate all conclusions drawn or to be drawn from such a source.

M. Ricord does not appear to us to have communicated the result of his examinations in a clear or satisfactory manner. He has given us no data of comparison, no means of ascertaining the frequency of such or such vaginal or uterine lesion in a given number of cases. The manner in which his propositions are stated is more brief than lucid. However, these are minor considerations, and we cannot but thank M. Ricord, as no doubt the profession will do, for putting the important facts, to which we have ad-

verted, in a prominent point of view. We suppose that their having occurred at a public hospital, together with the circumstances of their being brought forward in the Memoirs of the Academy of Medicine, will be a sufficient guarantee for their general accuracy.

We have now to notice the observations of M. Ricord on the treatment of the disease. On this we shall be more brief.

In the acute stage M. Ricord recommends antiphlogistic treatment, and he seems to approve of general bleeding, practised and recommended by Lisfranc. If leeches are employed it should be above Poupart's ligament, or, if the anus is affected, over the scrotum, as otherwise the discharge reaching the leech-bites, occasions very troublesome sores. M. Ricord prefers general to hip-baths. He thinks injections often injurious from the irritation occasioned by the introduction of the pipe of the syringe, and applies charpie dipped in an emollient decoction and often renewed. As soon as the acute symptoms have subsided the speculum should be introduced in order to ascertain the exact condition of the parts.

He has almost entirely abandoned injections. Patients too commonly use them carelessly, and even when used carefully, they are too frequently unsuccessful. In a great number of cases the injection never reaches the os uteri. M. Parent du Chatelet ascertained this fact, by placing on the os tincæ a plug of lint, and ordering an injection of coloured fluid to be used; the lint was not stained by the injection. Injections may be made to reach the deepest parts of the vagina, by a proper inclination of the pelvis, but they remain but a very short time in contact with the deeper parts. In short, M. Ricord prefers the introduction of dossils of lint soaked with the fluid to be employed, retaining them from twelve to twenty-four hours according to the circumstances of the case. If the discharge is slight a dossil of charpie dipped in a concentrated solution of the acetate of lead is introduced deeply into the vagina by means of the speculum, and replaced every twenty-four hours. If the discharge is profuse, the lint is renewed twice daily. Many patients were rapidly cured in this manner, who had been employing astringent injections of all kinds ineffectually.

If the mucous membrane is covered with prominences like pale granulations, or softened, the introduction of a dossil of charpie soaked in a solution of one part of acid nitrate of mercury in twelve of water, and left according to the state of the parts and irritability of the patient, ten minutes, a quarter of an hour, half an hour, or more, and then followed by a similar application of pure water, has succeeded in many instances.

Ulcerations of the vagina or uterus are often healed by the mere application of cold water. If they are accompanied with swelling of the parts where they are situated, small abstractions of blood are useful; if languid, M. Ricord cauterises them with the acid nitrate of mercury applied by dressing forceps, and immediately introduces a dossil of lint soaked in a solution of acetate of lead, and renewed every twenty-four hours or oftener.

Ulcerations of the cervix uteri being frequently accompanied with uterine discharge, the mucus covers the ulcers. The mucus should be cleared away with lint, or removed by coagulating it with the nitrate of mercury prior to the cauterization of the ulcers themselves. M. Ricord has cauterized ulcerations of the cervix in upwards of sixty patients without experiencing the slightest accident. The cauterizations have been repeated every six or eight

days, avoiding the catamenial period, and it has never been repeated more than ten times. Females have been thus cured who seemed incurable.

Transparent uterine discharges have often disappeared or have been much diminished, when the ulcerations on the cervix have been healed. Some opaque uterine discharges have subsided in the same manner. In five cases purulent discharges existed alone, and appearing to be kept up by atonic ulcerations within the cavity of the cervix, injections of the nitrate of mercury were thrown into the cavity. Three of these discharges were radically cured; the remaining two became transparent and less abundant. M. Ricord employs for injecting the uterus a double syringe with a double pipe. One part of the syringe contains a solution of the nitrate of mercury, the other water. An elastic tube, open at its two ends, is adapted to the double pipe. One end of the catheter is introduced into the cavity of the cervix, into which a small coffee-cup full of the solution of the nitrate is injected, and after being allowed to remain for an instant, is driven out by the water. All the patients who have submitted to these injections have experienced immediately afterwards pains in the loins, and a sensation of heat in the hypogastrium; these symptoms disappear after the hip-bath. Two patients had five injections thrown up, the others three or four. They were employed at intervals of eight days. The solution of the acetate of lead succeeded in several cases of transparent uterine catarrh.

We conclude by again directing our readers' attention to this Memoir. We do not care for the treatment nor even for the particular facts, so much as for the principle involved—that we cannot pronounce on the source of a vaginal discharge with any certainty, unless we are fully acquainted with the state of the deeper parts.

XIV.

NOUVEAUX ELE'MENS DE ME'DECINE OPE'RATOIRE, ACCOMPAGNE'S D'UN ATLAS DE 20 PLANCHES IN 4° GRAVE'ES; REPRE'SENTANT LES PRINCIPAUX PROCEDE'S OPE'RATOIRES ET UN GRAND NOMBRE D'INSTRUMENS DE CHIRURGIE. Par *Alf. A. L. M. Velpeau.* Trois Tomes. Octavo, pp. 800—503—541. Paris et Londres, Baillière, 1832.

WE take blame to ourselves for not having noticed this excellent work at an earlier period. It does credit not only to the author but the schools of France, and it places in a prominent point of view the advantages derived, and to be derived, from facilities in the acquisition of anatomical knowledge. This is really a treatise on operative surgery, such a treatise as should be in the hands of all surgeons, young and old. M. Velpeau regrets the taste for manuals and abridgements of all descriptions, short cuts to knowledge, or rather bye-ways to avoid it. We regret that taste, and we hope that the encouragement which M. Velpeau will receive, will prove that the

reprehensible taste in question is not so universal as to preclude the success of excellent and comprehensive works.

We have taken occasion lately to point out the superiority of the French works upon anatomy, and on all more immediately connected with that science. Those who move in the scientific world acknowledge, we believe, that the French have carried the science of analysis to an extent that was not conceived attainable. Our scientific greatness is not of to-day. Reposing on our great men and the great things they have achieved, we have been in a complacent reverie for the last quarter of a century, and during that time the energy of France has enabled her to outstrip us. Wrapped up in our insular prejudices, and barricaded by our long war against all from without, we shut out the bird of science as well as the eagle of victory.

Another day has dawned upon us. Our mathematicians acknowledge the merits of the French, and are at this moment engaged in a generous rivalry that must benefit either, and the world. The demand for French and for German literature, the eagerness with which the works of imagination, of the belles-lettres, and of science, in those languages, are sought by intelligent and well-educated Englishmen, and the reciprocal desire so evident on the part of those nations to make themselves acquainted with our language and institutions, encourage the hope that a mental intercourse will take place between us, that will be equally serviceable, perhaps to all.

Circumstances have made the French the European language; it is what Latin was. Our medical students should be acquainted with it, for, independently of the circumstance that what most gentlemen know should be known by our profession, they will find their means of obtaining information on points of medical and surgical science materially augmented. We fancy, however, that it is a work of supererogation to offer such advice.

We will not pretend to present a review of the work before us. It is in a great degree an elementary one, and although there is much that is justly and properly due to M. Velpeau, it is so interlaced with the more familiar matter, that it would be difficult and useless to attempt to separate it. Yet we think there are portions of the work to which we may usefully refer, and which may convey some information to such of our readers as have no opportunity of consulting the original.

In an introduction occupying 54 pages, M. Velpeau directs attention, amongst other things, to the preparations for an operation, and the circumstances to be considered during and after it. We need not say that such considerations, though much neglected, are of high importance, and we may possibly be excused for adverting to them a little more particularly.

M. Velpeau observes that the Spring and Autumn have been found upon the whole more favourable for operations, than the depth of Winter or height of Summer. Extremely hot weather is certainly unfavourable, for, independently of the greater tendency to suppuration, and of the inconveniences from the putrefaction of discharge, and so forth, there does appear to be a greater tendency in high states of temperature to severe forms of erysipelas or cellular imflammation. But, on the other hand, the variable weather of early Spring, and of the latter end of Autumn, would also seem to be favourable to the production of erysipelas, and it is usually at these seasons that erysipelas prevails in our hospitals. We have not the choice

of season in the majority of cases. M. Velpeau observes that it is better, on the whole to operate in the morning than in the evening, because we have the opportunity of paying attention to our patient when he chiefly wants it, at an early period after the operation ; besides, he is less fatigued.

Moral precautions are of great consequence. All here depends on the tact of the individual. It is above all things necessary to inspire confidence, to make the patient go to the operating table with hope rather than distrust. M. Velpeau dwells upon the fact which has been often noticed, that those who screw their courage up to make no sound and betray no emotion whilst suffering under the knife, very frequently do badly afterwards. He observes that the surgeon should so reasen with his patient before-hand, as to lead him neither to display unnatural and forced apathy, nor to give way to excess of timidity. We believe that much may be done by consummate address on the part of the surgeon, but much also depends on the temperament of the patient, which is neither under his nor our control. We remember seeing an instance of this sort at the Military Hospital of Antwerp. A Dutch colonel, Koopman, was received there from the citadel. He was wounded in the right forearm, and in the lower extremities, by the explosion of a shell. The wounds were severe, but not excessively so. He was an immense, fat, leuco-phlegmatic man, and during the dressings he betrayed great irritability, impatience, and a sensitiveness to pain, which he endeavoured to smother. He appeared to feel his situation as a prisoner. Soon after the dressing there was hæmorrhage from the wound in the forearm. It was necessary to remove the dressings and to search for the vessel. He was now still more irritable and impatient. He died that evening of tetanus that supervened four hours after the dressing.

It would be highly important to ascertain some certain general rule, respecting the diet and medical treatment of patients, previous to their undergoing operations. This is not so simple as some might imagine. One person depletes his patient, starves, purges, bleeds him ; another gives him merely a little else to eat ; a third feeds him, (for we have wittnessed this); a fourth does nothing at at all. Who is right ? We fancy that there can be no rule applicable to all or even to many cases. The Surgeon must be guided by his judgment and experience. We are confident we have seen operations proceed unfavourably in consequence of diminishing the diet previous to and after the operation ; and we are equally confident we have seen cases where more attention to the use of aperients, and of regulated diet would have been advisable. But we repeat that each case must be looked at per se—we must be guided by the peculiar nature of the operation, and more especially by the habits of the patient. If a patient has had a chronic disease for which he has had a generous diet, and if immediately before or immediately after the operation he be deprived of that diet, it seems to us, from what we have observed, that a greater tendency to suppuration is occasioned. On the whole, we suspect that it is better to sin on the side of non-interference than on the reverse.

M. Velpeau condemns the practice of crowding the operating part of the amphitheatre of Hospitals. There can be no doubt of its impropriety in every point of view. The choice of assistants is always one of importance. They ought not to be too numerous, but at all events the duties of each should be clearly and appropriately pointed out, and satisfactorily understood.

nothing is more common than to witness, in a private operation, a great degree of confusion from inattention to this apparently trifling circumstance. All seem operators or spectators and none assistants. M. Velpeau also insists very earnestly on the full preparation and convenient disposition of all things necessary for the operation. The instruments, the bandages, &c. should be placed on a side table in the order in which they will be wanted, and if any thing be taken up it should always be replaced in its proper place. Those accustomed to hospital operations know the absolute necessity of these precautions. M. Velpeau reprehends surgery by the stop watch. The barbarity of *merely* attending to time, is we hope, no longer dreamt of by even the youngest pupil. At the same time there is nothing more dreadful to bear or more painful to see borne, than a protracted clumsy operation.

Amongst the consequences of operations M. Velpeau notices at some length, and he could not avoid it, the secondary inflammations. Many, even now consider these secondary inflammations as rather matters of curiosity than of much practical importance. There cannot be a more gross delusion. These secondary inflammations are of extreme frequency, and were we to generalise on what we have personally witnessed, we should say that they are the most frequent cause of death after operations, if not after accidents. For one patient who dies in a large London Hospital of erysipelas, two or three would seem to die of the secondary inflammations. It is true that we have hitherto failed to discover any means of controling these inflammations when established, and so far the investigation may appear to be unattended with practical results. But though we cannot cure, we may perchance prevent, and an accurate acquaintance with the phenomena exhibited by these inflammations, and a careful observation of the circumstances under which they do or do not occur, may possibly lead to measures of prevention of the utmost benefit.

We shall notice M. Velpeau's observations, and that on two accounts; first, that the subject, as we have said, is one of extreme importance, and cannot be too frequently brought before the profession; and secondly, that having been led by the evidence of facts to modify opinions that we formerly entertained and expressed, we are not averse to take advantage of the present opportunity of correcting ourselves. It may signify nothing to many what such humble individuals as ourselves may think; but as we have reason to believe that this Journal exercises some little influence on the minds of the profession, more perhaps, than we might have a right to expect, it becomes our duty as it is our inclination to endeavour to render the information it conveys as exact, and the opinions it presents as sound, as circumstances and our poor abilities will permit.

In the number of this Journal for October, 1830, we reviewed at some length Mr. Arnott's paper in the Medico-Chirurgical Transactions on the Secondary Effects of Inflammation of the Veins. At the close of that review will be found the following passage. "We cannot say that we think much of the translation of pus, the metempsychosis, as it were, of our modern pathologists. The deposites, whether visceral, articular, or seated in the cellular substance, are neither in quality nor quantity related to the secretion of the parent wound or injured part, and it appears to us extremely ridiculous to imagine that suppurations beat up their quarters and take to another more favoured spot in the body, like a tribe of Bedouins in search

of a spring in the desert, or an Arab palace under the magic influence of an Aladdin's lamp! To attribute these curious affections 'to the very difficult subject of the pathology of the blood,' is a supposition that leaves us and them where we were, and we believe after all that the theoretical notions respecting the visceral deposites are not one whit the clearer for the present investigation." Bad as the wit of the foregoing passage may be, we believe that on the whole it is better than the reasoning. Since that time we have seen more facts and we hope we are something the wiser for them. As our only object is truth it gives us not the slightest mortification to acknowledge an error. Before we consider this question more fully we must pay our respects to M. Velpeau, and we are disposed to lay before our readers his summary of the phenomena of these affections, as being at once concise and complete.

M. Velpeau ranks together phlebitis and the secondary deposites, and we think justly. He does not, however, consider the former as the essential cause of the latter, and here again we agree with him. But of this bye and bye. Let us look at his description of the symptoms and march of these affections.

Sometimes the secondary inflammation begins by a violent fit of shivering which may last some hours—sometimes by mere horripilation—in some cases by merely a slight coldness of the extremities. We would add, that in many cases it commences with vomiting, unaccompanied by any perceptible cold stage, and we think this is more common when the cellular tissue is the seat of the deposite. The skin becomes pallid, assumes a yellowish tint, somewhat livid or blueish, and soon afterwards the aspect is more or less cadaverous. The sort of attack differs from that of intermittent fever, in the circumstance that the cold stage is rarely followed by decided reaction. If sweating succeeds it is unequal, often thick and clammy. We should say that, for the most part, the fever attending the formation of a deposite has a distinct cold, and a profuse sweating stage, whilst the intermediate hot stage is extremely imperfect. After one or more paroxysms, returning after irregular intervals, a typhoid condition commonly succeeds. The eyes sink in the orbits, the conjunctiva becomes yellow, and the lips pallid, and the whole face dirty-looking and sallow. The tongue is usually moist, and does not become encrusted till a late period of the disease. The pulse is frequent and hard, and becomes more and more weak. The belly becomes distended—sometimes there is diarrhœa—rarely delerium, but always a degree of oppression of the mental faculties. In some subjects vague symptoms of viceral inflammations become associated with the foregoing. A slight flush appears upon the cheeks, and may be accompanied with a little cough, or pain in the chest, or dyspnœa. Sometimes there is jaundice more or less decided, with pain or uneasiness in the region of the liver or in the right shoulder; or, which is unfrequent, some vomiting, redness and prominence of the extremity and borders of the tongue, which grows dry; or, finally, pains in some parts of the limbs, for instance, in a large joint. The thirst is not commonly excessive. The breath, always fetid, exhales sometimes a true purulent odour. We have remarked, as all must have done, a very peculiar and nauseous odour about the persons of these unfortunate patients; that odour has likewise been always present in the pus which their wound or wounds contained. During this time cicatrization is suspended in the

wound the edges of which are partially absorbed, and pale like the rest of the surface. Whatever was the character of the suppuration previously, it becomes of an unhealthy serous character. We would particularly direct attention to the state of the wound in these cases. It is highly characteristic. If there were granulations they become absorbed, so that there is a pale glistening surface on a level with, or below the surrounding parts; new skin formed at the edges of the sore is partially removed by ulceration, so that the border has a remarkably abrupt and irregular appearance. The discharge consists of flakes of pus, floating in serum, and having a peculiarly sickly odour. Such has been the state of the sore in very many of the cases we have witnessed, but it is right to state that this state of sore is chiefly seen in cases which are not rapidly fatal. Emaciation, to revert to M. Velpeau's description, makes progress, the muscles and bones are detatched from each other, a bloody discharge escapes, and becoming more and more fluid, resembles at last the washings of flesh, and at length the patient dies exhausted, from the twelfth to the thirtieth or fortieth day.

There are two symptoms which have been but little adverted to in the foregoing description. The first is the remarkable frequency of the pulse which is almost invariably observed, at least has been so by us, in these cases. See the patient when we will, his pulse is seldom, if ever, below 100, often considerably above it. This is a circumstance of some importance, and we shall advert to it again hereafter. The next symptom is, that peculiar state of mind, which patients affected with the deposites usually exhibit. Whilst the organic system is evidently much disturbed, the circulation hurried, the functions deranged, nutrition annihilated, whilst death is in his face, the patient says he is better, that he is well. We pass to the consideration of the cadaveric lesions.

These are found to be of different kinds, though referrible, says M. V. to the same cause. The most frequent are numerous purulent deposites in the proper cellular tissue of the vicera, or collections, more or less abundant, of greyish, creamy, or purulent serum, in the serous cavities. In other instances the large articulations are filled with pus, which is also found either in the state of depôt, or of infiltration, wherever there is a certain quantity of loose cellular membrane.

The arteries are almost empty, and the blood they contain remains, in general, extremely fluid. The veins contain more, and the blood is more evidently altered. The coagula are many-coloured, black, yellow, white, greenish, and have a granular texture most distinct on cutting, or crushing them between the fingers. They sometimes contain globules of pus distinguishable by the naked eye, and it is not even uncommon to find collections of some little volume in the interior of the clots. M. Velpeau has seen these in the iliac, uterine, caval veins, and in the cavities of the heart, &c. Many of these concretions are still soft and recent, some firm, and apparently of a certain date, none, in most cases, connected with any particular morbid state of the vessel in which they are contained. In the neighbourhood of the wound nothing is more common than to see the veins inflamed, with suppuration within and without to a variable extent, though seldom to such as to involve the venæ cavæ.

To revert to the depôts, or insulated depositions of purulent matter. These have been found in all organs. A subject examined by M. Velpeau

at Tours, in 1818, presented some dozens of them in the brain and in the tissue of the heart. A young man who died at the Clinique of the Faculty, in 1825, had them in the spleen and in the kidney. The liver and the lungs are the viscera most frequently affected. When once fairly recognized in these viscera, it seems hardly possible for the observer to confound them with other lesions, yet, strange to say, they have been so confounded, and there are many who so confound them still. Most frequently there are many in the same organ—they are mostly seen near the surface—they rarely acquire a large size, varying from that of a pin's head to that of a large nut or small egg. On pressure they are felt like tubercles in the viscus, and its surface is nodulated by those that are most superficial. In the liver they are more central, ordinarily larger than in other parenchymata, and more unequal in consistence; for they are often fluid in the centre and consistent at the circumference. The different phases of the deposite can be followed out more satisfactorily in the lung. In parts we distinguish only small spots resembling ecchymosis—when we advance, these ecchymoses contain each in the contre a little drop of pus—in other places, only purulent collections are observed. These deposites may be either concrete, or of different degrees of fluidity. The subtance of some appears to be confounded with the surrounding tissues, to have penetrated, or been diffused through them; others again have cysts, the parties of which are of a villous consistence, and lilac colour. Beyond these alterations the organ is natural, and the depôts are almost always separated by intervals of healthy tissue. In many instances, indeed, the organ appears to have been merely excavated to afford room for the deposites. We have frequently witnessed more inflammation of the tissue of the organ, more particularly of the lung, than M. Velpeau describes. It is not uncommon to observe considerable interlobular peripneumony, or even extensive inflammatory *engouement* of the lung. We have seen these deposites produce sloughing of the lung in their vicinity.

The effusions into the serous cavities are equally remarkable. The pleura is most commonly affected, though the peritoneum, pericardium, arachnoid may be so. The quantity of the effusion becomes in a few days very considerable. The membrane, scarcely altered in other respects, is covered with a layer of more or less consistence of true pus, whilst the liquid has an ashy or earthy tint. In the joints the tissues remain surprisingly sound, although they are filled with pus. The cartilages, however, may be partially destroyed, the synovial membrane and the ligaments ulcerated, without alteration of the contiguous parts. So it is with the subcutaneous depôts, or those in the cellular texture of the limbs. Yet occasionally there are traces of inflammation around these depositions.

Some patients present at once collections of matter in different parts and various organs. The majority have them but in one organ. Sometimes they exist in the lungs or liver, without effusion into the serous cavities—sometimes there is merely effusion into these cavities—sometimes they are only in the limbs, and they may be within or without the articulations—and, finally patients die, if we understand M. Velpeau aright, with symptoms of this affection, but no cadaveric proof of it. He places the mischief in these cases in the blood. We may mention a curious fact on this head. In the old St. George's Hospital depôts were very frequently found in the liver; perhaps it was the most common seat of them. Since the erection of the

new building the liver has been only affected in two or three instances, but the great majority of patients have had the depôs in the lungs.

We now pass to the causes of these affections, and we instantly feel that we are treading on treacherous and slippery ground. All hitherto has been the mere expression of facts; etiology is their analysis and value.

We come to the etiology of these affections. It is an error to suppose that they were unknown to our predecessors. They were aware of the fact that deposites of pus occurred in distant parts after injuries and operations, but the fact itself was ill observed and worse explained. We believe that the merit of directing the particular attention of modern surgeons to the subject, must chiefly be attributed to M. Velpeau, though the late Mr. Rose, Mr. Guthrie, Mr. Arnott, and others in this country, may fairly lay claim to a considerable share.

There are several opinions as to the causes of these depôts. One party supposes that they depend on the resorption of pus, with or without phlebitis—a second, that the resorption of pus is always connected with phlebitis—a third, that they are the result of simple idiopathic inflammations—a fourth, that they depend on some peculiar state of the nervous system. There may be other sects, but the four we have mentioned are the chief.

We need not argue the question of simple idiopathic inflammations. There are few who now entertain this opinion, and consequently, it would be fighting with a shadow to combat it.

Is the state of the nervous system to be looked on as the cause? We were at first inclined to attribute great importance to the agency of the nervous system; we are now rather shaken in our belief. It must be confessed that it is difficult to reason satisfactorily on the agency of a system so complicated and so powerful, and it does appear to us extremely unphilosophical to get rid of that difficulty, by denying the influence of the nervous system altogether. It is not improbable that it does exercise an influence, a mysterious one indeed, in the production of the deposites. Thus we find that the patients most commonly affected with them, are persons who have lived and drunk freely, debauches in whom the nervous system is extremely excitable, and who are subject to delirium tremens. When we think upon this fact, we cannot resist the suspicion that certain states of the nervous system are more favourable to the development of secondary inflammations than others. Beyond this, we know of no certain data for satisfactory conclusions.

If we are not content with the theory of nervous agency, we are necessarily driven to the humoral pathology. Is the blood then contaminated in these cases, and is pus absorbed or in any way carried into the current of the circulation? Let us look at facts.

Purulent depôts seldom if ever occur, unless there be a suppurating wound, or pus be locked up in some part of the body. The cases in which the secondary inflammations are most common are undoubtedly those of compound fractures, amputations, operations, in which the knife passes deeply among parts, injuries of the head, and inflammation of the veins. Wherever, after an injury or an operation, inflammation and formation of lymph or pus occurs in the intermuscular cellular tissue, a part in which it must *necessarily* be confined, we may count pretty generally on secondary inflammation occurring somewhere. This fact has struck us most forcibly,

and so far as our own observation extends, we can guarantee its accuracy. If on the other hand, suppuration occur where it is not of necessity locked up, for instance, in the subcutaneous cellular tissue from which incisions discharge it, the secondary inflammations are beyond comparison less common. This is a broad fact that carries with it extreme weight.

It may be said that in chronic abscesses, in what is termed the psoas abscess for example, pus is locked up for a length of time, without much tendency to secondary inflammations existing. The cases do not appear to us to be parallel, nor the analogy sufficiently exact to diminish the force of the previous fact. A psoas abscess is connected with a peculiar state of constitution, has altogether a different march, occasions very different symptoms, from those remarked in cases of deep cellular inflammation after a recent injury or operation. No two things can be more unlike in appearance, in all essential circumstances, than a patient during the first week or two after the reception of a compound fracture, and one with chronic abscess. In the former the inflammation is a spreading one—in the latter the purulent collection is more or less bounded by a wall of lymph.

We repeat then that the cases in which we must peculiarly dread the supervention of secondary inflammations, are those in which the inflammation has occurred in parts, where pus, if secreted, must be necessarily confined. We need hardly say that such cases must be most adapted for the resorption of pus. But there is another circumstance that cannot fail to have weight. The cases in which we might imagine, a priori, that pus might pass with much facility into the circulation, are those of phlebitis. Now two facts present themselves to our notice:—first, that phlebitis is very commonly attended with the purulent depôts, and secondly, that the symptoms of phlebitis are so similar to those of the depôts, that, accidental circumstances of distinction not being present, we defy any surgeon to point out the difference. It will be observed that this does not involve the question of the existence of phlebitis in all cases of depôts. That is a totally separate consideration.

Facts, then, have carried us thus far; first, that depôts are most common where, after injuries or operations, matter is confined, and particularly where it is not lodged in any one cavity, but disseminated through the intermuscular cellular membrane; secondly, that phlebitis is very frequently accompanied or followed by the depôts; and, thirdly, that the leading symptoms occasioned by phlebitis and by the depôts are almost exactly similar.

We know not whether we have put the argument in a clear manner, whether our readers see its force as we have seen the force of the facts it represents. Those facts have made us swerve from an inclination to believe in the efficient operation of the nervous system, to a more than suspicion that the true cause exists in the passage of pus, in one way or other, into the circulating system. The evidence is not perfect we allow, but it is of a cumulative character, and more satisfactory than that on the side of nervous agency.

We have said that the constant existence of phlebitis in cases of depôts requires other evidence for its support. The facts to which we have alluded do not prove it. We have seen many cases of secondary inflammation, in which a careful inspection detected no venous inflammation. This has been the case with other observers. M. Velpeau has examined, since this theory

was broached, thirteen patients in whom he could discover no phlebitis whatever. Some of these dissections were made in the presence of those who adhered to the theory in question. It has been said that the smaller veins are affected, and that it is difficult to trace their implication. But this is obviously assumption, and where facts fail we must stop. When the evidence of sense no longer serves us, one man has, cæteris paribus, as good a right to deny as another has to affirm.

With reference, therefore, to the co-existence of phlebitis and the purulent deposites, it seems to us that we may venture on the following conclusions, but that facts do not yet support us farther. First, that the symptoms of phlebitis and the purulent deposites are very similar, if not identical in kind. Secondly, that in a considerable number of cases, phlebitis and the purulent deposites are found, by examination after death, to co-exist. Thirdly, that in many cases a very careful inspection can detect no traces of phlebitis, while the purulent deposites are present. Fourthly, that in many cases, phlebitis exists without the purulent deposites.

There is one circumstance that has always made a strong impression on our minds, and to which we cannot forbear adverting. It is this. If after an injury or an operation a patient has continued to have a very frequent pulse, that patient has almost always done ill, and has in many instances died of some secondary inflammation. A frequent pulse is, of course, merely an evidence of fever, and fever itself is usually a symptom, an assemblage of deranged functions from some local lesion or irritation. We do not mean to say that fever is never idiopathic, but we may safely say that in the cases we are treating of it seldom is so.

It appears then that if, after an injury or an operation, that description of fever which is characterized by a pulse always frequent, but more so at night, and a temperature of the surface always above par, be continued for any length of time, the patient is very liable to be attacked by some secondary inflammation. We are not solicitous about the explanation of facts, provided the facts themselves be true. Our own impression is, that if, after any local injury, fever from any cause be maintained, that very fever becomes itself the source of other affections. The blood is circulating and continues to circulate in all the organs with unusual rapidity, and it is not difficult to conceive that under such circumstances those organs should be more prone to inflammation. There are some analogies that bear upon this point. It is well known, for instance, that during the re-actions that follow any kind of collapse, visceral inflammations are not uncommon. Thus a patient receives a severe burn, there is much collapse, stimulants are given to a great extent, considerable re-action succeeds, and fatal inflammation of the pleura or peritoneum supervenes. Mr. Earle mentions that many of the firemen burnt during the conflagration of Covent Garden Theatre, died from visceral inflammations. They were much stimulated. Now in these cases the secondary inflammations occur in some instances before suppuration has commenced in the injured parts, and consequently before absorption of pus can occur. But persons labouring under intermittent fevers are liable to serous or pneumonic inflammations. In intermittents there is no cognizable source of pus to be absorbed. A very common cause of death in patients who are said to have typhus, is inflammation of the lung. We have seen a patient die of secondary pleuritis, who had simply cutaneous erysipelas, and in whom there was nowhere suppuration. These facts, and

we might mention many more, facts too of such a nature that any man of experience or of observation must recognize them as not uncommon, are calculated, we think, to prove that consecutive inflammations occur under conditions, and in diseases agreeing only in this, that there is fever.

We repeat that we are not solicitous about an explanation, nor do we feel anxious respecting the fate of our *opinions*. All that we covet is the power of observing facts correctly, and drawing from them the fair inductions they allow. Were we inclined to press our theory, or rather generalization, for it scarcely deserves to be termed a theory, we might instance the ulcerations of the bowels, the chronic pleurisies, the tubercles even occurring in protracted febrile states of system, whether the pyrexia be occasioned by a suppurating burn, diseased bone, diseased joint, or in many other manners. We will, however, desist, contented with hinting our belief, that consecutive diseases, whether they be visceral inflammations rapidly fatal, or merely chronic, are apt to occur whenever pyrexia is present for any length of time, whatever the cause of that pyrexia may have been.

Our readers perhaps may not share our interest in this discussion. We pray them to pardon us if we have dwelt on it too long. We must say, however, that to us it seems extremely important, and we think it is our duty to lay before our readers as many authentic facts as possible. We pass to the treatment, and here, unfortunately, we have little that is satisfactory to dwell upon.

When public attention was first attracted to the consecutive inflammations, it was supposed that could depletion be resorted to very early in consequence of an improved diagnosis, it might prove beneficial. This reasonable expectation has not been fulfilled. In some cases there is more decided pain, more inflammatory action, than in others. In these, small general bleedings or local depletion are beneficial to a slight extent, that is, they relieve the more urgent symptons. But they do no more, and in some instances they appear to precipitate the patient's fate. M. Velpeau seems to have arrived at the same conclusion. He speaks more favourably of purgatives and blisters, indeed we have witnessed more benefit from the latter than from any other means. M. Velpeau recommends the quina when there are intermissions. Tartar emetic has failed him.

We would observe that there are two kinds of secondary affections—one, in which there is much serous or visceral inflammation ; another, in which there are depôts comparatively unattended with inflammation. It seems reasonable to suppose on general principles that these may admit of variations of treatment. In the former we should adopt local depletion, and especially blisters ; in the latter it is that quina and the mineral acids protract the fatal termination. We saw the oxymuriate of mercury tried in one case ; it did no good. We saw the nitric acid tried in another, with the same result. Mercury so pushed as to put the patient rapidly under its influence we have not seen employed.

The means of cure are confessedly deficient and inefficacious. A few patients would certainly seem to have survived, but it is doubtful what was the extent of mischief, and what the consequence of treatment. Our great aim should be directed to prevention.

If we are correct in inferring that the two great causes of secondary inflammations, are matter that does not get a free escape, and fever maintained

in any manner, it follows of course that we should endeavour to avoid, or to remove them. With respect to the lodgment of matter we need say no more than to direct attention to the well-known principles and modes of practice in such circumstances. Matter, however, is frequently collected in the intermuscular cellular membrane when its existence is unsuspected. To enter on this subject would not suit us at present, but we hope to be able to offer our remarks on this affection at an early period. With regard to the second cause, fever, we can only recommend the surgeon to look to what produces it, and if possible to remove the agent. It is usually local mischief of some description. Occasionally the cause is of a more general nature. Thus, a patient accustomed to spirituous liquors, if suddenly deprived of them after an injury or an operation, is not unfrequently attacked with low fever, which passes away when his accustomed stimulant is given to him. On the other hand, we feel confident that we have seen surgeons sin on the other side, and, dreading this danger, run into the opposite of over-feeding and over-stimulating. Were we to trust to our own suspicions and observations we should say, that over-feeding, and over-treating with bark and stimulants or tonics, is too frequently a cause of the depôts. The truth is, that all depends on the judgment of the surgeon in the managment of the individual case. Of two, equally well-informed on the general principles of treatment, one shall be able to seize the indications of the case before him, and the other shall not; one, in fact, shall be a good surgeon and the other a bad one.

With respect to the local treatment, that which is unirritating, the abscence of pressure, light dressings, with occasional fomentations, and the use of all means for the evacuation of matter, whether position, the laying open of sinuses, or making of dependent openings, or poultices, are the best and safest.

There are parts of M. Velpeau's work which we shall notice on fitting occasions hereafter.

XV.

TRAITE PRATIQUE DES MALADIES DE L'UTERUS ET DE SES ANNEXES, FONDE SUR UN GRAND NOMBRE D'OBSERVATIONS CLINIQUES; accompagné d'un Atlas de 41 Planches in folio, gravées et coloriées. Par Madame *Veuve Boivin*, Docteur en Médecine, Sage Femme surveillante en chef de la Maison Royale de Santé, &c. &c. et par *A. Duges*, Professeur à la Faculté de Médecine de Montpellier, &c. &c. Tome Premier. 8vo. pp. 399. Baillière, Paris et Londres, 1833.

BOTH ourselves and the public will be much indebted to Mr. Baillière for bringing this work before us. Our readers must not be alarmed at perceiving that one of its authors is a lady. Madame Boivin has attained a deservedly high reputation, and her experience in female diseases has been

very great. We have, on former occasions, directed attention to insulated papers of this lady's, and the work before us enhances our opinion of her merit.

We do not think it necessary to enter on a systematic analysis of the work. We shall select some particular chapters for notice, and, first, of anteversion of the uterus.

Anteversion of the Uterus.

This displacement, though extremely common, is frequently neglected, and unknown both to writers and practitioners. The uterus is naturally inclined forwards, and when its fundus or anterior part is enlarged, this disposition is of course increased, and the utero-iliac peritoneal ligaments are stretched, and, in certain positions of the female, the fundus is carried forwards on the bladder, whilst the os tincæ is borne backwards and upwards on the rectum.

Although increase of bulk is the ordinary cause of anteversion, it rarely occurs in pregnancy, because here the enlargement is general, and the organ is carried out of the pelvis. The only example of anteversion during pregnancy, known to our authors. was communicated by Chopart to Baudelocque; they have themselves seen one other instance. The fundus of the uterus was inclined forwards, and was lower than the neck, so that reduction appeared impossible; however, as the volume of the uterus increased, the displacement passed away.

Our authors have seen, in many instances, the fundus of the uterus inclined forwards, to a degree intermediate betwcen obliquity and anteversion, and they think it may not be an uncommon cause of difficult delivery, especially if the placenta is attacked anteriorly. It seems that the uterus may be anteverted, independently of any enlargement of the organs. This may take place in consequence of repeated efforts, as, for example, those of vomiting, of straining at stool, repeated attempts at coitus, &c. Morbid adhesions from inflammation of the uterus and peritoneum, may, by their retraction, produce the effect in question. In a case communicated by Madame Legrand to M. Ameline, adhesions of the os tincæ to the posterior wall of the vagina appeared to be the cause of an incurable anteversion.

Pain is most commonly experienced in the lumbar region, and extends thence to the epigastric. A feeling of weight in the region of the rectum and of the bladder is felt when the woman rises, walks, or even when sitting. The fundus of the uterus pressing on the bladder occasions a frequent desire to make water, or may even go so far as to give rise to partial retention of urine, whilst the os tincæ, carried against the rectum, impedes the course of the fæcal matter. The symptoms are not observed when the patient is reclined upon her back, unless the uterus be retained in its unnatural position by adhesions. The resemblance of the symptoms, in many respects, to those of calculus in the bladder, have led to a serious mistake. M. Levret performed the operation of lithotomy under these circumstances, and the patient's death gave him an opportunity of discovering that the case was one of anteversion only. Passing over the obvious diagnostic marks of the two affections, we may simply observe, that examination per vaginam is the most certain means of discriminating the case. If the patient be exa-

mined in the upright position, or seated at the edge of a chair, the portion of the uterus presented to the finger of the operator is its anterior face. Sometimes the vagina is partially obstructed by the fundus of the uterus, which has fallen forwards, or may, perhaps, be inclined to one side. The os tincæ is always much backwards, often to be looked for in the concavity of the sacrum. In general it is depressed, as is the whole of the uterus—occasionally so elevated, that the finger can scarcely touch it.

If the fore-finger be bent into the form of a hook, and the os uteri drawn forwards by its means, and then, if the finger be straightened, and the fundus of the uterus pushed backwards, it is easily restored to its natural position, though it quickly returns to its unnatural one. If, however, there be adhesions, even this temporary reduction is unattainable.

The uterus, in these cases, is in general of greater volume, and possessed of more sensibility than natural. This may be either the consequence or the cause of the anteversion. Many believe that chronic inflammation is always the consequence; but our authors have seen several instances of acute metritis, after labour, subsiding into chronic, and producing anteversion, which could not be cured till it was removed.

It is in consequence of these observations, and of their belief in the frequency of deromé metritis as a cause of anteversion, that our authors are rather averse to the employment of mechanical means of treatment, such as pessaries. They have recourse to leeches to the anus and vulva, baths, enemata, rarely vaginal injections, narcotics, and the horizontal position on the back, with the pelvis a little raised. When there is little or no tenderness, and inconsiderable swelling, our authors agree to the use of mechanical means.

The pessary commonly employed is of the ball-and-socket kind (en bilboquet), the hollow being deep, to receive the neck of the uterus. This organ having been returned to its natural position, the patient lying on her back, the instrument is to be carefully introduced and adjusted. A plug-pessary (en boudon), particularly of the form of those denominated elythroides by M. Cloquet, may be sufficient in slight cases. But in some, more rare, a small sponge introduced into the vagina, behind a very prominent os tincæ, has retained the uterus in its position, when not very much deranged.

Many cases of anteversion are related by our authors. We need not particularise any, as we are anxious to pass to other portions of the volume.

Passing over chap. iv., on Retroversion of the Uterus, we stop at the fifth, which treats of hernia of the organ. And, first, of *ventral hernia*.

This occurs through an accidental opening in the abdominal muscles and aponeuroses. It has only been known to occur in the state of pregnancy, and has been confounded with an extreme anterior or latero-anterior obliquity of the uterus. We will briefly mention the three facts collected and related by our authors.

Case 1. A woman, who had been three days in labour, suddenly experienced violent pain in the belly. She was examined by J. L. Petit, who found a ventral hernia, extending from the umbilicus to the os pubis, and another from the umbilicus to the xiphoid cartilage. The inferior one was so large, that the recti muscles were separated from each other nine or ten

inches. Mr. Petit was informed that the tumour had commenced a long time previously, that it had increased in size at each pregnancy, that the increase had been most rapid during the last six months; but that it had only attained its actual size within the last three days.

Case 2. A woman who had had an enormous abscess, followed by cicatrices in the abdominal parietes, becoming pregnant, observed the cicatrix gradually yield, and the uterus descended at last as low as the knees. At the time of labour the tumour was supported, and delivery took place without difficulty. This case is related by Ruysch.

Case 3. A woman, aged 49, observed in her fifth pregnancy, that a tumour, which had existed for some years towards the inguinal region, gradually enlarged, and it soon became evident that it contained the uterus and a living fœtus. Professor Saxtorph allowed labour to proceed; but in endeavouring to extract the placenta, he again had occasion to remark the unnatural position of the uterus. The patient did well, but the uterus continued to protrude through the abdominal parietes, and that by a lacerated opening.—(*Bibliot. Med. t.* 67.)

Crural Hernia of the Uterus. In a case related by Samert, and in another by Doringius, the uterus formed a tumour situated towards the groin, but whether it protruded through the crural ring or not, it is difficult to say. In both cases, the uterus, being irreducible, was opened, as in the Cæsarian operation. Both patients died, but the infants lived. A case, however, has been recorded by M. Lallemand, in which the uterine hernia was clearly crural. The patient was eighty-two years of age at the time of her death, and the tumour had existed since the age of forty. It occupied the fold of the right groin, its form was pyramidal, its length five inches, its breadth four. The uterus had passed out behind the ligament of Fallopius, and was accompanied by the ovaries, Fallopian tubes, and a part of the vagina. The cause appeared to have been an omental hernia, which had taken place a few days after a natural accouchement. In fact, the reporters believed that the uturine protrusion had occurred only eight years before the patient's death.

Inguinal Hernia of the Uterus. If the possibility of the existence of such a hernia, during the condition of pregnancy be doubted, it is certain that it may occur when the uterus is unimpregnated. In a woman, aged 71, at the Salpetrière, the uterus, with the right ovary and a portion of the vagina, was enclosed in a thick herniary sac, which had passed through the inguinal ring on the right side. The form of the tumour was that of a pear, and it was four or five fingers' breadth in length. A similar case has been published by Chopart. The patient was fifty years of age. Nearly the whole uterus, with the left Fallopian tube and ovary, protruded through the inguinal ring on the left side, and was contained in a very large hernial sac. It was unusually small, elongated, contracted in the narrowest part of the ring, pale, and had attached to its fundus some membranous layers, which appeared to result from the detachment of the omentum, which had formerly adhered.

This species of hernia may be congenital, an instance of which has been given by our authors, in their general considerations on the genital organs. The subject was one of doubtful sex, and the hernia existed on the right side. The greater number of uterine herniæ have taken place on the right side, as, indeed, is the case with omental and intestinal protrusions.

Our authors conclude the chapter with a brief summary of the general characters of uterine herniæ. If the uterus be impregnated, the disease may be recognized by the volume of the tumour, its gradual increase, an obscure fluctuation, the motions of the fœtus, and the sounds of its heart as distinguished by the stethoscope. If, on the contrary, the uterus be unimpregnated, the hardness of the tumour, its rounded form, the thickness of the pedicle; and, on the other hand, the tension and obliquity of the vagina, the elevation and disappearance of the os tincæ, are the diagnostic marks.

With respect to treatment, the reduction of the herniary uterus ought to be attempted, and, if effected, maintained in all cases, but more especially at the commencement of pregnancy. If irreducible, and the woman is past the age of child-bearing, a bandage or a suspensory will be sufficient; if her age be less advanced, we may attempt gradual compression, according to the method of Petit in cases of adherent intestinal hernia. If pregnancy has taken place, we may attempt, as in case 3 of ventral hernia, to assist Nature, by raising and supporting the tumour, and making its axis the most convenient possible for delivery. If, however, we cannot effect this, the Cæsarian operation should be resorted to, dangerous as undoubtedly it is.

If the hernia is in a state of strangulation, we must operate to relieve the stricture, as in other cases of hernia.

UNNATURAL FIXEDNESS OF THE UTERUS.

This is the subject of chapter vi. In the former chapters, our authors have portrayed inconveniences arising from the mobility of the uterus; in this they have to show, from facts, what contrary inconveniences may arise from the organ being unnaturally restrained.

In youth both metritis and peritonitis are unfrequent. Chronic inflammation of the peritoneum, however, in early life, particularly when it affects the pelvic portion of it, may give rise to adhesions more or less firm and strict between the surface of the uterus and the neighbouring parts. The uterine appendages may adhere to that viscus, or to the pelvic parietes, and form ligaments, the inconveniences of which may be first experienced at a very distant period from that of their formation.

In mature age metritis and metro-peritonitis are much more frequent, whether from dysmenorrhœa, or difficult parturition. From these morbid adhesions may result. In a work on one of the most frequent causes of abortion, published by Madame Boivin, these adhesions were attentively considered, and their importance properly appreciated. Barrenness may result from the occlusion of the adherent fallopian tubes; but conception in these cases may be worse than even barrenness, the traction exercised by the growing uterus lighting up perhaps fresh peritonitis. Such adhesions may give rise to pains and dragging sensations in the pelvis, a sense of lassitude n the lower extremities, formation of abscess in the neighbourhood of the

vagina or rectum, and sometimes death. Commonly these untoward symptoms are preceded by abortion, occurring between the third and fifth month, and preceded and followed by hæmorrhage and all the signs of metritis.

These physical obstacles to the ascent of the uterus in pregnancy may be predicted from examination of the vagina and a careful consideration of the previous circumstances of the case. If the finger be introduced into the vagina, the uterus is generally felt depressed, or inclined to one side or other, and firmly fixed in that position. One of the round ligaments shortened, enlarged, may bind down the uterus. In this case the uterus rises to a greater height than in the other instances, but it is inclined, disturbed, and, as in a case related by Madame Boivin, it may give rise to premature labour: for example, at seven months.

We have said that it is necessary to inquire into the previous history of the case—to ascertain whether there have been symptoms of metritis, peritonitis, dysmenorrhœa, abortion, laborious parturition, wounds or abscess in the pelvic region. Our authors have remarked that unnatural fixedness of the uterus is most common in women of a lymphatic temperament, subject to constipation, and irregularities of the digestive organs.

Can adhesions, supposing them proved to exist, be removed? It is not likely that they can be so, but a proper antiphlogistic treatment may pervent their formation, and when dependent on persisting chronic inflammation, mercury, in removing that inflammation, has appeared to our authors to exercise an influence on the adhesions themselves.

Adhesions however may occur when the uterus, is in a state of enlargement, and contains the developed ovum. The omentum may, under these circumstances, be firmly attached to the uterus while residing in the abdomen, and whilst it continues there no unpleasant symptom is observed. But when, after parturition, the uterus is rapidly re-descending into the pelvis, the omentum previously consolidated by inflammation is violently stretched, if too firm and resisting to give way. Peritonitis is re-induced, or, the uterus being unable to descend into the pelvis and contract, the orifices of the uterine sinuses are not adequately closed, and alarming or fatal hæmorrhage ensues. Baudelocque saw an instance of death in the early periods of pregnancy. The patient, in whom the omentum, rolled into the form of a cord, adhered to the anterior part and right side of the uterus, so that the stomach and arch of the colon were singularly dragged upon, had vomiting, diarrhœa, and syncope, previous to dissolution. In other cases related and represented by Ruysch and mentioned by Morgagni, painful dragging sensations and disturbance of the health were less serious consequences of such adhesions.

Five cases are related by our authors. We shall merely mention the particulars of two.

Case. Madame Delama, æt. 32, of extremely lymphatic temperament, was brought to the Maison de Santé, in a state of extreme prostration. She had menstruated at the age of twelve years, but very irregularly, and had been habitually subject to fluor albus and obstinate constipation. She married at the age of 25, and immediately contracted syphilis. At the age of 30 she became pregnant, and had a fortunate accouchment, followed by a return of the fluor albus. She again became pregnant, and at three months

miscarried, after which there was uterine hæmorrhage for four days. That hæmorrhage was arrested on the evening before her admission into the Maison de Santé. On examining the uterus the os tincæ was found more enlarged and more firm than usual—the uterus was quite immoveable—the abdomen was somewhat blown up, and slight fluctuation was perceptible—and the left lower extremity was infiltrated throughout its whole extent. We need not particularize the treatment. The patient died on the 20th day after the miscarriage.

On dissection, a great quantity of yellow serous fluid flowed from the abdomen, when that cavity was opened. There were tuberculous granulations in the sub-peritoneal tissue of the iliac colon and of the rectum, both of which adhered on the one side to the uterus, and on the other to the sacrum. A vast abscess occupied the recto-vaginal duplicature of the peritoneum. The ovaria and fallopian tubes formed on the surface of the uterus, below the adhesions already mentioned, an inextricable mass infiltrated with pus.

Case. This patient was of a good constitution. At the age of seven years the menses appeared, and returned twice at intervals of a month. They then disappeared and did not return till the age of 10, after which they occurred regularly. At the age of 13 there was a profuse hæmorrhage from the uterus; at the age of 14½ this person married; at 16 she was a mother. At the age of 20 she broke her left femur, and ever afterwards was subject to pain in the left groin. About the age of 23 she had three abortions in fourteen months, one at four months, another at two months, the third at five months. From that time the menstruation was irregular, and she did not again become pregnant. In December 1819, whilst having connexion with her husband, a profuse uterine hæmorrhage occurred, with severe pains in the right iliac region. These symptoms were relieved by local bleeding, emollients, and narcotics.

In February, 1820, she had a relapse. On examination the uterus was found very low, resting on the perinæum, its neck, tender and swollen, was surrounded by the upper part of the vagina, and the uterus could scarcely be at all pushed up, whilst the attempt produced pains in the groin and hip. Constipation was extremely obstinate. Emollients, narcotics, &c. having been employed without permanent benefit, mercurial inunction was employed for a month. It did not produce salivation, but the pain and other unpleasant symptoms were completely relieved, and the reporters state that so much was the patient altered for the better, that she could scarcely be recognized. They forget to state, however, whether the immobility of the uterus was diminished.

The third section of this interesting volume is dedicated to the consideration of Alterations of the Form and Volume of the Uterus. It includes three chapters. The subject of the first, is, 1, Partial Flexion of the Cervix Uteri; 2, Reversion (rebroussement) of the Os Tincæ; 3, Adhesions, Obliterations; 4, Elongation of the Cervix; 5, Atrophy, Hypertrophy. To this chapter then we will first advert.

Partial Flexion of the Cervix Uteri. It is well known that in the commencement of labour, the os uteri very little, if at all, dilated, is directed

towards the sacrum, and sometimes even felt with difficulty. The anterior wall of the cervix then answers to the area of the vagina, and on it the weight of the fœtus and the brunt of the uterine contractions bear, and it also dilates, and yields the most. It is not to be wondered at that it sometimes becomes relaxed, and contracts with less facility than the opposed part. M. Dubois makes mention of a curious case.

A woman, whose pregnancy had been accompanied by anasarca, &c. and who remained in the Infirmary of the Hospice de Maternité, at Paris, presented on examination, in front of the neck of the uterus, a large tumour. The tumour was soft, large, rounded, and communicated to M. Dubois the idea of its resulting from an anteversion of the uterus, had not the fundus of this organ been distinctly felt in the abdomen. The bladder was empty, and the tumour without fluctuation. M. Dubois could only imagine it a fibrous tumour. The dropsy increased, and at the end of some days the patient died. On opening the body the tumour could not be discovered. The uterus was healthy, but softened, and the anterior wall preserved still a great tendency to be folded in front and below; and M. Dubois entertains no doubt that it was such a fold that formed the tumour.

Reversion of the Os Tincæ. In the early stage of cancer uteri it occasionally happens that the internal surface of the cervix becoming gorged and swollen, forces open, and everts the opposed surfaces of the orifice. We notice this reversion or eversion of the os tincæ, merely for the purpose of introducing a case, possessed of physiological interest.

Case. On the 8th November, 1832, a young woman was brought to the Maison de Santé in a dying state. She was said to have laboured under an inflammatory fever. On the day after her admission she died. On opening the body no other cause of death than a general engorgement of the vascular system was discovered.

The menstrual epoch had arrived during the latter days of the patient's life. The uterus was gorged with blood and of a violet colour, the ovarian vessels, especially the veins, were extremely dilated, the inner surface of the uterus of a bright red colour and smeared with colourless mucus. The tissue of the organ was soft, and the neck contained some *ova Nabothi*, of the size of a millet seed. The os tincæ was in a state of reversion, so that the surface generally concealed within the uterine cavity looked outwards. The young woman presented in the external organs all the appearances of chastity, but the ovaries were studded with cicatriculæ, and the right presented an erosion three or four lines in extent.

This reversion of the os uteri might possibly be mistaken, on a superficial examination, for ulceration. Pregnancy would probably remove it.

Adhesions and Obliterations of the Os Tincæ. Numerous as are the agencies which might seem calculated to produce ulcerations and adhesions of the lips of the os tincæ, such adhesions are in point of fact unfrequent. Our authors have found in elderly women the os tincæ annulated, wasted, destroyed, sometimes leaving in its place some bridles; and a funnel-like orifice, sometimes barely permitting the passage of a thread through its aperture. A case has been related by M. Ameline, in which such adhesion in earlier

life produced retention of the menses in the uterus, and serious consequences. In other cases the same lesion would appear to have been productive of anteversion. Sometimes these adhesions oppose an obstacle to delivery, but not to impregnation, a circumstance which may result from the adhesions not having been so perfect as to have prevented the fecundating influence, or that they were not completed or not commenced until after impregnation. For cases of this kind, and of various degrees of contraction or obliteration. of the os tincæ our authors refer to various publications.

Elongation of the Cervix. In certain cases of prolapsus, our authors have seen the whole lengthened. But elongation of the cervix only must not be mistaken for prolapsus. Sometimes the entire cervix is thus lengthened, and the reflexion of the vagina is thrown to a considerable distance from the free end of the cervix. Sometimes only one of the lips of the os tincæ acquires this elongation, and it may proceed to such an extent as to cause the lip to protrude from without the vulva. Professor Lallement has seen some cases of this kind in females much advanced in life, and before him Leroux of Dijon, appears to have witnessed something similar, but in pregnancy only. The latter gentleman observes, that sometimes one lip only, sometimes the entire cervix protrudes. He has seen it passing out of the vulva, and looking like the neck of a bottle, with its thickened border. On introducing the finger into the opening of the cervix, he could pass it as high as the internal orifice, which was closed by the membranes. When labour-pains commenced the cervix diminished and became gradually obliterated, in proportion as the internal orifice dilated.

In a case of elongation analogous to that described by Leroux, but in which the uterus was not gravid, the presence of the orifice at the summit of the elongation did not prevent a surgeon from believing in the existence of a polypus, and applying a ligature. The patient died of peritonitis. In a case related by Buisson, a pessary was applied. Bichat observed this elongation in the bodies of two or three individuals.

The second chapter of this section is devoted to the consideration of—

INCURVATIONS OR FLEXIONS OF THE UTERUS.

Our authors observe that these conditions of the uterus have only very lately excited much attention. They have reason to believe that sometimes flexion of the uterus is congenital, at least, they have observed it in young females in whom the uterus had not undergone the changes that puberty, or copulation, or pregnancy entail. These cases, however, are very rare, and our authors think that the rapidity with which the uterus develops itself between the ages of twelve and fourteen, will explain the affection by the circumstance of one side being rather more tardy than another after pregnancy, or, on the other hand, if one side is reduced rather more rapidly than another, or if one of the parietes be more condensed than the other. In married women, the uterus inflamed and irritated may be elongated, softened, or retracted on one side, by the formation of an internal cicatrix, or even from irregular muscular contraction. At all events, married women present these incurvations much more frequently than the unmarried. What appears to confirm the idea that chronic inflammation is frequently the cause

of these alterations is the circumstance that, on dissection, the uterus in such cases is often found of a deep red colour, or even blackish, or that there are present fibrous degenerations, or adhesions, or obstructions of the cavity of the cervix, &c. In a case related by Denman, that able author would seem to have looked on retention of urine at the period of delivery as the cause of retro-flexion, for the latter returned every time that the bladder was full and passed away on pushing the fundus of the uterus above the sacro-vertebral angle as soon as the bladder was emptied. Our authors have seen two cases of a similar description, but think that mere retention of urine would not produce the effect in question, if a peculiar condition of the uterus did not co-exist and co-operate with it. Besides retention of urine could not possibly produce ante-flexion.

Flexion operates more particularly towards the part where the neck and body of the uterus unite, and the curvature assumes various degrees of angularity. Sometimes it is such that the organ is actually folded on itself, and the two portions approach closely to each other. Commonly the curvature is rigid; rarely, if not soon after accouchement, there is mobility of the curved organ. And next for the means of determining the existence of this affection.

Before making an examination, the bladder and rectum should be emptied. The examination with the finger in vagina should be made in two different attitudes, upright and reclined, and the other hand should always be applied on the hypogastrium, both to ascertain whether the fundus of the uterus has its proper position, and also to depress the organ, and render both its cervix and body more accessible to the finger. It sometimes happens that the cervix is directed much backwards in retroflexion; but then the fundus is not inclined forwards, as in reversion; on the contrary, the fundus may be carried a little backwards also. A rounded or angular concavity is directed backwards, whilst the projection is directed forwards. If it is wished to obtain a very accurate examination, the uterus being firmly fixed by one hand applied on hypogastrium, the extremity of the index finger of the other is to run over the curved portion of the organ, and so define its form. This is most easily done on the left side, if the right hand is employed in the examination. The same signs, in an inverse sense, characterise the ante-flexion, but in this the orifice is found more constantly in the centre of the pelvis. In order to complete the diagnosis, we should attempt to move the uterus in several ways, to ascertain whether it be free or adherent. In this case as in all that are doubtful, examination by the rectum may greatly assist. Whilst the fore-finger in the intestine touches the prominence formed by the uterus, or even its fundus, our authors have sometimes succeeded in passing into the vagina the thumb of the same hand, and in thus seizing the viscus in its length, and appreciating its condition with much precision. This is not difficult with women who have had many children, or abused sexual intercourse, nor with young women with habitual leucorrhœa.

Leucorrhœa frequently accompanies a flexion of the uterus, and amenorrhœa still more frequently. These complications, or effects of the uterine alterations, may make part of the characteristic signs of this kind of affection, to which other symptoms, hysterical, &c. may be added. The affection will be more or less serious, in proportion to the gravity or otherwise of

these accidental symptoms. Sterility may also be a consquence; but our authors have seen three instances in which impregnation took place.

Pregnancy may, perhaps, produce a temporary or permanent cure; and, in order to prevent a relapse after parturition, the uterus should be carefully replaced, its contraction accelerated by frictions on the hypogastrium, &c. In all cases of pregnancy or recent delivery, we should take care that the flow of urine be free, and the issue of the fæces sufficiently free and frequent. After parturition, we should endeavour to retain the uterus in a proper form by position; if there be anteflexion, the patient should lie upon her back; if retroflexion, she should recline upon her side, with an inclination as much forwards as possible. Our authors ask if it would be dangerous to introduce into the cavity of the uterus a wooden spatula, covered with lint and cerate, and maintain it there just long enough to allow the uterus to acquire some firmness. If the flexion is of some duration, and the uterus empty, this measure is of course improper. In such cases, our authors recommend commencing the treatment with local or general antiphlogistic measures, if any symptoms of inflammation or plethora exist. Mechanical reduction should be tried with the fingers, and, if it is effected, a piece of sponge, or an ivory or gum-elastic pessary may be introduced into the bottom of the vagina, and applied in front of, or behind the os tincæ, as the case may require; or a ball-and-socket pessary may be used, with one side of the socket higher than the other, in order to raise the inclined part. Our authors doubt whether such instruments can be borne, or be useful, and recommend in such cases less specific means, such as stimulants over the cords, &c. which we need not dwell on.

Thirteen cases of morbid flexion of the uterus are related. We will briefly hint at one or two.

CASE.—*Anteflexion apparently Congenital.* Miss Anna B. æt. 27, had begun to menstruate at 18, but this function had been very irregularly performed, and there was an abundant leucorrhœa. She complained of great weight in the perrinæum, dragging at the groins and in the loins, increased on walking, standing, or straining at stool, and frequent attacks of hysteria. On examination, the os tincæ was found within an inch of the vulva, and on making more particular examination of the uterus, its fundus was found inclined upon the bladder; its volume was very small. Marriage was recommended.

CASE. *Anteflexion after Parturition.* Frances M., cook, æt. 24, who had been regular from the age of 16 years, married and became pregnant a year after marriage. After some unusual exertions, she was seized with pains in the regions of the kidneys, followed by violent uterine hemorrhage. She was at the time in the sixth month of pregnancy. Although the loss of blood was very great, this woman returned to a laborious employment in ten days. She remained feeble, pale, and complained of dragging sensations in the lumbar region and in the groins; constipation was extremely obstinate, and although she had been absent from her husband for ten months, she had not observed any menstrual secretion. The abdominal parietes were very lax, and whilst pressure was made on the hypogastrium with the left hand, the fore-finger of the right introduced into the vagina, allowed

the form and situation of the uterus to be distinguished. The body was of very small size, and curved forwards; its fundus was in contact with the inferior border of the symphysis pubis, and the os tincæ rested almost in the centre of the vagina. We need not mention the treatment, for we are not told whether it was or was not efficacious.

The next case related is one of anteflexion, observed at the commencement of pregnancy; as the pregnancy advanced, the flexion sensibly and materially diminished.

The fourth case is one of retroflexion of the uterus in a girl of 18 years old, who died of hypertrophy of the heart. There was a tumour, of the size of a nut, on the fundus of the uterus; the tissue of the body of the viscus was red and softened round the tumour. The cavity of the cervix was obstructed by cretaceous matters, which had no doubt been an efficient cause of amenorrhœa, under which the young woman had laboured. M. Dance has related a very similar case.

Case.—*Retroflexion after Delivery.* A female, in whom delivery was retarded by excessive distention of the bladder, presented the following condition of the parts. The fundus of the uterus, turned backwards, occupied and filled the pelvis, whilst the orifice was so raised behind the pubes, that, had it not been for the umbilical cord, it would have been impossible to have discovered it. Our author drew off more than four pints of urine, when the cervix descended into the pelvis in front of the body, and complete retroflexion was found to exist. In order to effect delivery, it was necessary to introduce the hand into the uterus, which was done with difficulty. As soon as it was effected, the fundus was raised, and made to pass over the sacro-vertebral angle, when a strong contraction effected at once the expulsion of the hand and the placenta, and maintained the organ in its proper position.

Case.—*Retroflexion after Abortion.* Madame C. a Creole, æt. 25, having never menstruated, married at the age of 14. In a few months she became pregnant, and had a long labour and painful delivery. Afterwards she went through her full time twice, without ill consequences. After this, she had in two years three abortions, between the second and fourth month. The last was followed by inflammation of the uterus. From this time, she always suffered from a painful sensation in the cavity of the pelvis, had painful menstruation at intervals of two and three months, and had symptoms of general derangement of the health. M. Dugés was invited by Dr. Rayer to examine the patient. He found the uterus affected with a slight retroflexion, and advised the patient to try the effect of a fresh pregnancy. She was at first much averse, the remedy being worse than the disease; but M. Dugés has since heard that she became enceinte, and miscarried at the third month.

We pass over the following chapter, dedicated to the subject of introversion of the uterus, as the English reader is already familiar with the affection, from the works of our own writers upon midwifery. We arrive, then, at the fourth section, which treats of distention of the uterus by foreign substances.

DISTENTION OF THE UTERUS BY FOREIGN BODIES.

The cavity of the uterus may be filled, or the organ much distended, in several ways—by gas, by liquids, by solids. And, first, of the retention or inclusion of gas.

Retention of Gas in the Uterus, or Physometry. Our authors have only observed this phenomenon in obstetrical cases, where some remains of the membranes are retained in the uterus, or portions of the fœtus deprived of vitality, or putrid coagula. In such cases, the uterus may be more or less prominent in the hypogastrium and vagina, resonant on percussion, and forming a circumscribed tumour. Cases have been related, in which the air would appear to have been a morbid exhalation, and not the result of putrefaction. Such a case has recently been published by the Medico-Chirurgical Society of Bologna.

Case. A woman, aged 40, thought that she was pregnant; her menses were suppressed, the belly swollen, and the uterus, at the fifth month, at the level of the umbilicus. One day, whilst stooping, a great quantity of flatus escaped from the vulva, and the abdomen immediately subsided.

Women subject, as they sometimes are, to the escape of air from the vulva, usually experience it in stooping, or such motions of the body, in consequence, we may suppose, of the compression then exerted on the uterus. The expelled air is sometimes inodorous, and it is supposed that this is atmospheric air, accidentally introduced. Larger quantities must be artificially introduced, as in the case related by Frank, in which it was occasioned by the use of a liquid injection. Usually, however, as has been stated, it is the result of chemical decomposition, either of the putrefaction of the mucus of leuccorrhea, of the sanious discharge of a cancerous ulcer, or of clots from previous menorrhagia, or even of the menstrual secretion itself. Our authors relate, from Frank, some cases. We will give one.

Case. A woman had the menstrual secretion suppressed from exposure to cold. Pain and tumefaction of the uterus, which rose as high as the umbilicus, and was resonant on percussion, followed, and these symptoms were accompanied with fever in paroxysms. A finger was passed as high as the os tincæ, and a gust of fetid gas escaped. The belly immediately diminished in size, but it again swelled. A tube was introduced into the uterine cavity, and a great quantity of gas issued from it—this was followed by the expulsion of coagula; and the patient was cured.

It is to the putrefaction of certain products of conception that we must attribute the expulsion of bladders filled with air, or flatulent moles, instances of which have been related.

The symptoms of this affection are sufficiently obvious. The prognosis must depend upon the nature of the affection producing the air. If merely the result of secretion, it is merely an inconvenience, and mechanical means will readily remedy it. Cleanliness, baths, lotions, injections, either of pure water or of chloride of lime, are all that in ordinary cases, are necessary.

Retention of Water, or Hydrometry. This name is given to a collection of serous, sero-mucous, or albuminous fluid in the cavity of the uterus. This affection, like the preceding, is generally symptomatic. Our authors have seen it occur and disappear during the course of scirrhus of the uterus. They have also seen it follow a chronic metritis. Most commonly it has been found, on examination, mixed with pus and blood, and in a few instances, the uterus was found simply extended and diminished in thickness. Most frequently, its tissue is studded with scirrhous indurations, ulcerations, hydatid or polypous tumours, and its orifice is sometimes obstructed by a tumour, sometimes merely closed by tumefaction of its borders. Thus, then, hydrometry is usually only a symptom. Our authors next allude to certain collections of fluid that take place during pregnancy, which may have a different seat in different cases, and sometimes occasion serious consequences.

1. It has long been remarked that women pretty far advanced in pregnancy, and especially about the middle of their time, may discharge a considerable quantity of water by the gential organs, without supervention of abortion. Puzos saw this take place four times during the same pregnancy. Some have thought that this quantity of water existed in the allantois; others between the laminæ of the decidua. Our authors incline to the former opinion.

2. The true waters of the amnion accumulate sometimes superabundantly in this membrane, and a state, really of disease, results, that may be termed *hydramnios*. Fifty pounds of water have been said to be so collected; but probably this is an exaggeration. Sometimes this affection has given rise to metritis, and traces of inflammation have been seen even in the placenta and membranes of the ovum. Perhaps the inflammation may have been rather the cause than the effect. In a case mentioned by Van Swieten, there were twins.

Our authors have seen a similar affection with a double pregnancy; dangerous peritontis ensued, miscarriage occurred, and the twins were born dead. In a case mentioned by Doctor Duclos, the labour was premature, but the child was born alive. In other instances, the child has been born at the full time, but dropsical, or, as our authors have seen, encephalic.

True hydrometry has appeared to be sometimes occasioned by general causes, as a weak constitution, &c., but more frequently by some circumstances, productive of local inflammation, as a blow upon the hypogastrium, &c., or by chronic inflammation. It has only been observed in young married women. It has appeared in various degrees, the uterus sometimes scarcely containing two pints of liquid, sometimes so distended as to counterfeit pregnancy. Sometimes even the quantity of fluid has been so considerable, that ascites was believed to be present, and eighty-five pints of ichorous and oily-like matter (*Blanckard*) have been found in the womb. Vesalius even speaks of such a collection as one hundred and eighty pints of water.

The diagnosis may be difficult, as from the rarity of these cases they are not suspected. Fluctuation will distinguish this affection from scirrhous enlargements, &c. The obscurity of the fluctuation, and still more the distention of the uterus discoverable by the touch, will point out the difference between it and ascites, or ovarian dropsy. The absence of the motions of

the fœtus, and of the pulsation of its heart, as detected by auscultation, will prevent it from being confounded with pregnancy; whilst the want of resonance on percussion will show that it is not a collection of air.

The danger of the case must depend in a great degree on the cause of the collection of water. It will of course be less, when the obstruction at the neck of the uterus is incomplete, and allows, from time to time, the evacuation of the liquid. Fernel mentions a case where such an evacuation took place every month. Frank speaks of another in which pregnancy occurred twice in a woman subject to alternate retentions and evacuations of serous fluid. Such an evacuation may take place about the natural period of the termination of a supposed pregnancy, and Mauriceau, Nanshe, and others have seen this not followed by any relapse.

The treatment must be guided by and directed against the disease of which this is the consequence. In itself, and considered idiopathically, we may be compelled to attend particularly to it, on account of the inconvenience it produces. Monro observes, that a mechanical succussion, that of vomiting, &c. may occasionally produce the discharge of the fluid. At other times the finger, or a blunt stilet may be introduced by the vagina, into the os tincæ, and the orifice be opened; or a tumour falling down upon the orifice might be pushed up in the same manner. In some severe cases the inefficiency of these means may render puncturing with a trocar necessary. This has been done with success above the pubes, and 53 pints of thick, black, and bloody fluid have been thus drawn off in a female of 53 years of age: ten months after this there was not the least appearance of a relapse. A similar puncture was made with advantage for a hydramnios, which threatened the life of the woman. Undoubtedly it would be better to puncture the membranes through the os uteri, if it were possible; a long trocar, of a probe curve, would be the best means of doing so. Cruveilhier mentions a case in which this operation proved fatal. Our authors relate one case which is sufficiently interesting to be noticed here.

Case. A young lady, of strong constitution, had complained for a long time of violent pain in the right iliac region, and of the sensation of a ball, accompanied with burning heat, passing from the uterus to the œsophagus. On the 1st of October, 1829, after violent pains in the hypogastric region, she gave issue, at several times, at intervals of five minutes, to a pint of colourless, inodorous, liquid, staining the linen like the serum of milk.

On examination the uterus was found lower, the edges of the orifice thicker, and the orifice itself more widely opened than natural. There was a point which when touched occasioned pain, nor could anything particular be distinguished in the hypogastrium.

Calculi of the Uterus. These, of course, are very rare, so much so that M. Roux attributes their formation merely to the ossification of fibrous tumours, which are known to be very common. A calculus of the uterus which was analyzed some years ago was found to consist of a large proportion of animal matter, united with salts of potassa, soda, and lime. Another, which M. Amussat examined, was composed of phosphate of lime and gelatine. M. Louis has collected and published, in the Memoirs of the French

Academy of Surgery, the greater number of the cases that have been recorded.

The symptoms appear to have been—feeling of weight, difficulty in walking, pruritus of the vulva and at the top of the thighs in one case, whilst other women, in whom the stone has been smaller, have not suffered much inconvenience, and others, again, have had very serious consequences, such as ulcerations, &c. and have even died in consequence. Symptoms then such as these—tumefaction of the abdomen, colicky pains, sensations of weight, difficulties in the emission of the urine and the fæces, induration of the uterus when felt from the vagina, may lead to the suspicion of the existence of uterine caculi, but their presence can only be rendered certain by feeling the stone itself either with the finger or an instrument.

Louis cites three or four cases in which the stone issued spontaneously, or was extracted from the vagina. He mentions a case in which a stone was extracted by incision of the uterus, but he does not relate any details. He recommends the stone to be sought for and extracted with forceps, after having suitably enlarged the os uteri with the knife. In a case related in the Revue Medicale, and purporting to be taken from a Turin Journal, the orifice was sufficiently open without any further enlargement.

Passing over a not uninteresting chapter on Retention of the Menstrual Secretion, we arrive at the sixth chapter of the section, dedicated to the consideration of Moles.

Moles. Our authors limit these to three kinds:—1, the false germ: 2, the fleshy mole: 3, the hydatid mole. In this point of view, moles are always a product of conception, and cannot exist independent of fecundation.

I. Our authors contend that if the causes of abortion are often exclusively maternal, they may also be found in the state of the embryon itself. Thus it occasionally happens, that on opening the membranes corresponding exactly to an human ovum at an early period, only water is discovered, or perhaps some filaments adhering to the membranes, floating in the liquid, and probably the remains of the umbilical cord. It is this that should be called more particularly and properly a false germ.

A false germ seldom remains in the uterus for more than three or four months, and it is impossible to distinguish it from a pregnancy of the same period, whilst its expulsion does not differ from an abortion, properly so called. It is commonly expelled entire. If it breaks previously to expulsion, the waters escape, and it becomes impossible to say at an early period whether or not an embryon detached with its envelopes has been expelled and lost amongst the coagula which come away before the membranes. These membranes are always composed of the amnion, chorion, and decidua. The placenta may be more or less circumscribed or developed; most commonly the filaments which constitute it are still universally spread over the surface of the chorion, and hidden in the decidua; the latter appears in consequence very thick, the thickness, however, being often accompanied with increased consistence owing to the fibrinous coagula infiltrated into its tissue. This alteration is distinguished with more difficulty when the false germ has been preserved for a length of time in alcohol, and it is then very easily confounded with the fleshy mole.

II. The fleshy mole differs from the false germ only in its longer sojourn in

the uterus, and in the more complete changes which it undergoes. Our authors think it may easily be conceived, that if the false germ, or the ovum deprived of the embryo, remain attached to the uterus, and absorb and appropriate to itself the blood destined to the fœtus, it will not only acquire volume but compactness. Our authors describe two varieties of fleshy mole.

1. Sometimes it is hollow in the centre, and contains water, but the cavity is always very small in proportion to the thickness of the parietes. These are unequally dense, red, fungous, somewhat like the tissue of the placenta. The mass is more or less regularly rounded, or ovoid, sometimes lobulated, &c. and varies in size from that of a large egg to that of a child's head.

2. Sometimes more irregular and often more voluminous, this mass presents no longer a central cavity, whether it be obliterated by absorption of the liquid, or whether that and the embryon with it flowed out through some aperture. Very large productions of this sort have been recorded, but the greater number have not exceeded the two fists in dimension. The tissues of which they are composed are various :—in one part we see a filamentous tissue as spongy as that of the placenta ; in another a compact and parenchymatous substance : hydatid vesicles are scattered amongst it, fibrinous clots intermixed with it, and sometimes even remains of the fœtus, such as bones, &c. are incorporated with it, or adherent to it.

This degeneration of the fœtal envelopes may be met with in a case of twins, as well as in one of simple pregnancy, and one only of the products may be effected, the other pursuing its normal developement to the full time, when the mole is expelled with the secundines of the healthy infant, or some days after it. Sometimes this complication has not allowed gestation to be completed, and a premature labour has been the necessary consequence. More rarely the mole is expelled prematurely, at seven months for instance, and pregnancy continues and terminates in the regular manner. Some examples of two moles existing in the same uterus have been related. These may become united. The epichorion is usually common to the two products of a twin conception, and this may serve to unite them. It has been seen encrusted with calcareous salts, and forming on a mole an envelope of osseous consistence.

The diagnosis of a fleshy mole is very often difficult, especially in the first months, in fact we may say that its symptoms at that period do not differ from those of a painful pregnancy. The symptoms may be described as being—a feeling of weight and distress in the region of the uterus, and small losses, more or less frequent, of serous blood. These are sufficiently uncertain. At a later period we may observe that the belly is larger, and projects more in the hypogastrium than the presumed period of pregnancy would warrant ; this prominence, too, appears more resisting, and the uterus, as felt from the vagina, is more compact, more unequal, more weighty than it should be. The feeling of the weight to the patient herself increases, and the womb appears to fall to the side to which she inclines. If the period is still later advanced, we seek in vain for the motions of the child, and the pulsation of the heart.

One of our authors, M. Dugés, lately saw a case which proved how difficult it is to decide upon these points. A child was born at five months, when the placenta, which had been fixed at the orifice of the neck had been gradually detached. Continual evacuations ensued ; they were chiefly serous,

but always coloured with blood, and always debilitating. All the signs enumerated above had existed, and no doubt could have been entertained of the existence of a mole, if the patient had not been confident that she felt the motions of the child.

Thus, then, we are often uninformed of the existence of a mole till it is expelled. The expulsion is generally slow, painful, preceded, like an abortion, by repeated hæmorrhages; sometimes, however, it is easy and rapid. The unfavourable mode of expulsion is probably owing to the adhesions which the fleshy mass has frequently contracted with the uterus, in consequence of its partial separation, and also of the condition of the uterus itself, a condition approaching to one of disease, if not actually such. Usually the fleshy mole is expelled from the uterus some months later than the false germ, shewing, or seeming to shew, that it is only an advanced degree of the latter; and that the same product, expelled early, is a false germ—retained later, is a fleshy mole. Those of great dimensions had exceeded the natural term of gestation; but the greater number were expelled between the third and sixth month, and commonly nearer the former than the latter.

The hæmorrhage which precedes or accompanies the expulsion may be serious; Delamotte has seen it fatal. Usually, however, the result is not unfortunate, and we need not even despair of subsequent pregnancies and natural deliveries, although some women would seem to present an inherent disposition to the affection.

Treatment for this, as for the false germ, must be almost entirely palliative. Sometimes plugging may be necessary for extreme hæmorrhage; sometimes the ergot of rye, stimulating lavements, fumigations, hip-baths, injections, will be necessary to quicken the contractions of the uterus, or favour the separation of the mole and the dilatation of the cervix. For the latter object, our authors mention that the ointment of the extract of bellandonna may be useful; the fingers, even the hand itself, or the false germ forceps of Levret, or the blunt hook of Fabricius Hildanus, may mechanically expedite a slow, difficult, or incomplete expulsion.

III. Our authors next advert to the vesicular or hydatid mole. This is the product of another sort of degeneration in the envelopes of a fœtus. Here, however, the degeneration appears to be the cause of the loss of the embryo, and not, as in the preceding cases, the effect. To prove this, our authors enter on the following considerations. When in the first months of gestation, we examine carefully the filaments which spring from the chorion and plunge into the decidua, to constitute the placenta, we find them interwoven, a circumstance which was mistaken by some ancient writers, sometimes for distended lymphatic vessels, sometimes for glands. From this circumstance, Vallisnieri was of opinion, that uterine hydatids are varicose enlargements of those lymphatic vessels. Our authors observe, that the enlargements presented by the villosities of the chorion, and the filaments of the placenta, are purely of a cellular and spongy nature. In this structure our authors appear to place the hydatids, and to agree, in some measure, with Vallisnieri in opinion.

Our authors describe three varieties of mole; the vesicular embryon mole (mole embryonée)—the hollow vesicular mole—and, finally, the vesicular mole en masse. Those of our readers who are curious on this head we must

refer to the work itself, or to the translation which is now, we understand, in process of publication.

Our authors remark that the symptoms, duration, and termination of the vesicular mole, differ little from those of the fleshy mole. The uterus, however, is in general less heavy and less hard, although fluctuation is not more distinct; the duration of this false pregnancy is no longer than in the instance of the fleshy mole, and ranges from three to ten months; and, finally, these false hydatids are more frequently expelled, not at once, but at several intervals. The symptoms, again, are more serious, and death more frequently results.

Four cases are related. In the first, the hydatid mole was expelled at the end of twelve months and a half after impregnation—in the second, it was expelled at the fourth month—in the third, at the eighth—and, in the fourth, at the seventh month. We will confine ourselves to a narration of the first case.

Case. Madame D. æt. 34, of lymphatic temperament, experienced all the symptoms of pregnancy, and the belly acquired a moderate size for five or six months, raising every expectation of a fortunate accouchement. At the ninth month there were no pains, and she consulted several medical men. One accoucheur said that she was enceinte, but remarked that the pregnancy was only of some months. MM. Bourgeois and Marjolin were of the same opinion. Six months elapsed, and nothing fresh occurred. Fifteen days after this, that is, twelve months and a half from the first suppression of the menstrual secretion, the patient was seized during the night with violent pains, followed by violent loss of blood. M. Lambert was summoned, and extracted a mole, which was lacerated during the extraction. It contained in its cavity, which was recognized as that of the amnios doubled on the chorion, a liquid, the quantity of which was estimated at eight ounces. The membranes lining this cavity were surrounded by a considerable quantity of very transparent hydatids, varying in size, from that of an almond to the smallest grain of sand. Several of these hydatids, projected into the cavity, and a group appeared to have been the origin or the remains of an umbilical cord. Externally, this mass was lobulated, granular, and like the external surface of a placenta at full term.

Neither during the gestation of this mole nor afterwards, was there any distention of the mammæ, nor was there any loss of blood during the gestation. The lochia flowed for several days afterwards.

The fifth and last section of the volume before us is devoted to the consideration of excrescences and degenerations. It comprises three chapters; the first on Excrescences and Degenerations in general—the second on Fibrous Tumours having no Pedicle—the third on Fibrous Tumors having Pedicles. We fear that we can only notice the first chapter. The other portions of this and the succeeding volumes, as they appear, will be fully considered, and, if necessary, analysed in this Journal. A translation of the work is, we believe, appearing, and we do not doubt that either that translation, or the original, will, after the attention we have drawn to it and the specimens we have given of it, be considered a valuable addition to the library of the obstetrical physician, or the general practitioner.

Degeneration and Excrescences.

These are divided by our authors into seven varieties—vascular, cellular, fibrous, osseous, tubercular, steatomatous, cancerous.

Vascular Degeneration. These are what Levret denominated *vivaces*, and which he very properly discriminated from polypi. From their rapid reproduction, probable origin, and from the facility with which they bleed, they appear to be formed essentially of new capillary vessels. Our knowledge with regard to them is still imperfect. Are the ulcerations which give rise to them cancerous in the first instance, or do they subsequently become so? Our authors merely mention two cases related by Hervez de Chégoin.

Case. A woman æt. 50, had been subject for a year to frequent hæmorrhages from the uterus. On examination, M. Hervez found implanted on a prominent point of the os tincæ, at the posterior lip, a fleshy growth, granular, three inches in length. It was so soft, that each examination detached portions of it. A ligature placed upon its point of origin cut it through abruptly, and a violent hæmorrhage followed, but was checked by plugging. For eight months, there was no appearance of return of the disease; but the point of origin of the tumour remained a little elevated. Six months later there was a return of a similar fungous growth, of the volume of an almond, and, at the same period, different tumours were developed around the uterus, with pyrexia, and all the symptoms of cancerous contamination of the constitution.

Case. A woman, æt. 48, and equally subject to hæmorrhages, accompanied with violent pains in the uterus, presented, when examined, vegetations springing from within the os uteri, which was partially open. Several fragments of these, of a reddish-brown colour, were expelled at different times. Some similar excrescences shewed themselves on the os tincæ, and a decided cancerous diathesis was established, and speedily killed the patient.

Our authors observe that those excrescences which have frequently a large base, an unequal irregular surface, granular, red, bleeding, and without external membrane, are but a form of cancer.

There is another form of vascular production or excrescence, which our authors rather refer to fungus hæmatodes. They have, on several occasions, found women subject to frequent hæmorrhages from the vagina present, on examination, no other lesion than a painful swelling of the os tincæ, a softening, sometimes with superficial ulcerations, a violet colour, and always a great readiness to bleed on the slightest contact. This state has sometimes changed into a true degeneration of the cervix uteri, which, becoming a violet or brown colour, and bleeding readily, has terminated by tumefaction and extreme softening, and, finally, by ulceration and total destruction. These cases, which our authors will notice more at length hereafter, appear to them to answer to the character of fungus hæmatodes.

Cellular Excrescence. This resembles the polypus of the nose, but it is not common. In order to illustrate the affection, our authors again borrow from M. Hervez de Chégoin.

Case. A woman, æt. 50, had been subject for seven months to continual losses of blood. The uterine orifice, partially open, allowed a smooth, rounded, not painful, projection to be felt. It was attempted to place a ligature upon it, but it slipped from out the knot; to seize it with a hook, but this tore its way out. It was finally laid hold of with the forceps, and tied high up; but the ligature cut the pedicle, and brought away a polypus of the form of a fig, of a reddish-brown colour, and an inch and a half in length. Pressure forced blood out of it, and reduced its volume considerably.

In other cases, these excrescences have arisen from the os tincæ One which had not been suspected during life was of the form and size of an almond, soft reddish-brown, streaked with very small vessels, and easily detached from the surface, to which it hung by a very fine pedicle. The same observer has remarked in the dead body three such excrescences, two fixed at the fundus—the other at the cervix. The exterior of these little tumours were continuous with the tissue of the uterus, and internally with its substance. Our authors have seen many instances of small excrescences, but they rather partook of the fibrous or fleshy character, and, on the whole, they are inclined to think these cellular excrescences rare.

The treatment does not differ much from that of fibrous polypi, of which they intend to speak anon. They think however, that they may be torn away, as nasal polypi are.

Fleshy and Fibrous Degenerations. It is so impossible to draw the line between these and the fibrous tumours of the uterus, which have been termed polypi and fleshy tubercles, that our authors will consider them all under one head.

Cartilaginous and Osseous Degenerations. Fibrous and tubercular tumours and excrescences may gradually assume so much induration, as to acquire the consistence of cartilage, or even of bone. The whole uterus may be thus converted into an osseous structure. Louis relates three cases of ossification of the whole uterus. A woman who died at the age of 60, of consumption, and carried for twenty years a hard tumour in the hypogastrium, presented, when examined by the surgeon, Mayer, an osseous uterus, the parietes of which were four lines in thickness, and its anterior was filled with pus. Hooper mentions his having seen an uterus of ordinary size, irregular on its surface, composed of an osseous mass, and covered by a layer of fibres, and in some points by peritoneum. On chemical analysis, it was found to consist of carbonate and phosphate of lime, with some animal matters.

Partial ossifications have been alluded to by many authors, but in none was the tumour of unmixed character. Hooper appears to have seen insulated and well-circumscribed cartilaginous tumours in the substance of the uterus. Our authors inquire, very properly, whether these were not fibrous tumours of rather more firm consistence than usual; for the consistence of fibrous tumours is, it is well known, variable.

The prognosis is not so light as would à priori be imagined, for many patients die. It is true that they seldom have any symptoms that rapidly prove fatal, and patients seldom sink in early life. Art can do little or nothing.

Tubercular Degeneration. This is one of those which is rarely seen separately in the uterus, but most commonly mixed with others. At the present day the term is limited to that alteration or production in which the substance of an organ is infiltrated with, covered by, or merely has deposited in it a mass of concrete, white or yellowish, rather albuminous matter, varying in consistence from that of a chesnut to that of a puriform bouillie. In some cases Madame Boivin believes that the tubercle arises, as Dr. Baron believes, in a primitive vesicle, but in other instances our authors seem to think that it consists of a simple depôt of a sort of concrete pus in the texture of the part affected, in some natural interspaces of an organ, or sometimes on its free surface. Such are the greater number of the tuberculous productions in the uterus; they are rarely seen in its tissue, usually on its external or internal surface.

Tubercle on the *external* surface is sometimes insulated, prominent, rounded, encysted under the peritoneum, but adhering by a large base to the tissue of the uterus. Tubercles are frequently seen on dissection, in conjunction with more serious lesions. It is very usual to see tubercles external to the uterus after repeated attacks of peritonitis which has become chronic, or after inflammations of the uterus to which prolonged inflammation of the hypogastric and pelvic peritoneum has been joined. They are found in the midst of adhesions contracted by the uterus with its appendages and with contiguous serous surfaces. We see even under the peritoneum and in the cellular tissue uniting it to the uterus, masses of greater or less volume, but more commonly of miliary character, sometimes separate, sometimes numerous and confluent, of greyish or white tuberculous deposite, mixed even with black colouring matter.

In the *interior* of the uterus, in certain cases of amenorrhœa apparently caused by chronic inflammation of the organ, we see deposited a concrete, adherent, thick layer of white or whitish matter, similar to that of tubercles. In most of these cases of tuberculous degeneration there is an evident scrofulous diathesis. In some cases tubercles have also been found in many other organs, both near to and remote from the uterus. Two cases of this kind have been published by Dr. Kenard. The woman had borne many children; the organs affected were the lungs, the peritoneum, and the uterus. In one of the cases there were also ulcerations of the vagina, and tuberculous matter deposited in the fallopian tubes, one of which was obstructed. A case is also related by our authors.

Case. Mademoiselle V. C., æt. 16½, had been very imperfectly nourished in early infancy, and had long suffered in consequence. Towards the age of puberty she had profuse leucorrhœa, but till the age of fifteen and a half menstruation was regular, when it ceased, and the leucorrhœa became still more profuse. About the same time she became affected with habitual constipation and swelling of the abdomen, accompanied with pain in its right side. Diarrhœa, vomiting of greenish matters, abundant metrorrhagia followed; she died in a state of marasmus.

On dissection there were found tubercles in the lungs and in the peritoneum, with conversion of the omentum into an adherent granular mass. The ascending colon was dilated, and its parietes almost cartilaginous. The left ovary was enlarged and tuberculous; the opposite ovarian tube studded

with three encysted tubercles; the right ovary filled with a mucous substance of blueish black colour. The uterus was red externally, and coated internally with a whitish and granular matter a line in thickness.

Steatomatous Tumours. True steatomatous tumours are very rarely seen in the uterus, though many examples are on record of other alterations and affections having been designated steatomatous. Thus extra-uterine pregnancy, and developement of the embryo in the substance of the uterus itself have been so confounded with steatoma. An instance of these ambiguous affections has been related by M. Delpech. In it hairs, bones, and fat, issued or were extracted by the urethra, owing to a communication which had taken place between the cyst and the bladder. Fabricius Hildanus mentions the case of a widow in whom the uterus was partly filled with a yellowish ichor, in part with fat and hairs.

The conclusion of the chapter contains a short notice on the subject of cancer of the uterus, which will be treated, hereafter, more in detail. Our authors observe that they admit four varieties of uterine cancer:—scirrhous cancer—ulcerated cancer—fungous cancer—and, cancer hæmatodes.

Here we must conclude the present article. Any lengthened expatiation on the merits or demerits of the volume before us would be out of place. We have noticed it so fully that our readers may ascertain whether it suit their tastes or not, and to our readers we leave the decision. But we may be permitted to observe, that the exact character and precision of the work are calculated, in our opinion, to render it a very useful addition to obstetrical literature in this country, and to add to the certainty of obstetrical practice. We are in the habit of attending to the effects of medicines, to symptoms, to circumstances more immediately and strikingly practical, and too frequently neglect those exact investigations into the varieties of disease, and into the differences of organic lesions, which though they may appear to many minute and unnecessary, are on the whole useful, and give, when every subtraction of refinements and over-drawn distinctions is allowed, a demonstrative and definite character to the science. It is on this account that we feel disposed to lay before the profession the analysis of such works as the present, because we believe that they are calculated to correct much of that slovenly grasping at what appears immediately useful, which characterises too frequently English practitioners.

XVI.

OUTLINES OF THE COURSE OF LECTURES ON MILITARY SURGERY, DELIVERED IN THE UNIVERSITY OF EDINBURGH. By Sir *George Ballingall*, MD. FRSE. Regius Professor of Military Surgery, &c. &c. 8vo. pp. 589.

THIS is a very interesting volume; Sir George Ballingall is already favourably known to the profession by former writings, and the present work will not derogate from his literary or his professional reputation. At this late period of the quarter we cannot do more than offer a notice of some partic-

ular portions of the volume, and cannot profess to select all that is worth selecting.

Sir George observes that the arrangement which he has adopted in his Course of Military Surgery is arbitrary, but that he has found it satisfactory and convenient. The course consists of three divisions. The first embraces topics connected with the formation, discipline, and economy of armies, highly important to the health of soldiers. The second, comprising the great body of the course, embraces those surgical accidents and diseases peculiarly incident to military and naval men. The third division includes the diseases incident to troops on foreign stations, and those semblances of disease which are often more difficult to combat than the reality. As we have observed, we can only notice particular portions of the work, and its necessarily general elementary character also renders this the preferable plan. The first subject to which we shall allude is that of the diseases of camps and garrisons, and the proportion of sick in armies.

Diseases of Camps and Garrisons. It has been observed, says Sir George Ballingall, and perhaps justly, that in all large armies more men perish by inbred disease than by the sword of the enemy, and that more campaigns have been decided by sickness than by battle. Many of our readers may probably remember the sarcastic remarks of Voltaire on the prevalence of syphilis in armies. The diseases of soldiers have, for convenience sake, been divided into diseases of the camp and of the garrison. The former have also been characterized as the diseases of Summer and of Autumn, this being the season of the year for encampment. Here fever and dysentery have been in all ages the scourge of armies.

"Of the extent to which these two diseases prevailed in the Peninsular army, some conception may be formed from the following statement extracted from Sir James M'Grigor's account of the diseases of that army. There were admitted during the years 1812-13, and part of 1814, sixty-eight thousand eight hundred and ninety-four cases of fever, of which six thousand seven hundred and three died, equal to 9.7 per cent.; and during the same period there were admitted into the regimental hospitals seven thousand five hundred and twenty-six cases of dysentery, of which four thousand seven hundred and seventeen died, or 62.5 per cent." 63.

The diseases incident to soldiers in garrison or in quarters, which have also been characterized as the diseases of Winter and of the early part of Spring, are chiefly in this part of the world, inflammatory, as affections of the chest, rheumatism, opthalmia; we must add, the venereal. In estimating the proportional sickness among the troops at different seasons of the year, Sir John Pringle has given the following result of his experience in Germany, Flanders and in this country, during the campaign of 1742, and the subsequent years.

"In the beginning of every campaign," says he, "we are to expect, for the first month at least, that the returns will be considerably higher than if the men had remained in quarters. The earliest encampment began on the 8th of April and produced such a number of sick, that in a month's time the returns amounted to a twenty-seventh part of the whole. In the year 1745, the campaign was opened on the 25th of April; and in 1747, on the 23d of the same month, both in the *Low Countries*, but in the year 1746, the troops encamped on the 23d April in the north of *Scotland*, which, considering the latitude, may be reckoned the earliest campaign during the war. And from all these instances, there is reason to believe, that the first proportion mentioned will generally hold when the army takes the field in *Flanders* in the first or second week of

April. At the end of the campaign in *Germany*, the number in the hospital were to the men in health as three to thirteen. In 1747, when the troops left the field, the sick made about one-fifth part of the whole number, but if we consider by itself the detachment sent that year into *Zealand*, this proportion was just inverted; for the men in health were to the diseased as only one to four." We learn also from the same authority, that of the troops stationed, during 1747, in South Beveland and the Island of Walcheren, some of the corps were so sickly as not to have more than one hundred men fit for duty, which was less than the seventh part of a complete battalion; "the Royals, in particular, at the end of the campaign, had but four men that never had been ill." 64.

This fatality in Walcheren has since been significantly commented on in the same pestiferous spot, where nearly four thousand men were lost. It must obviously, as Sir George Ballingall observes, be a difficult matter to calculate, before hand, on the mortality likely to ensue in any given service, so much must depend on accidental circumstances, such as the character of the season, the state of the provisions and lodging of the men, their morale, and so on. The most recent statement we possess of the actual mortality and contingencies incident to an European army, fighting on an European soil, has been given us by Sir James M'Grigor. Some error appears to have crept into the numbers. The statement is of the sick and wounded in the Peninsular army, from the 21st Dec. 1811, to the 24th June, 1816, embracing, of course, a period of very active operations.

"'On reference to the returns of sick and wounded for the above period, it appears that three hundred and forty-six thousand one hundred and eight cases of disease or wounds were treated in the hospitals; of which were discharged cured two hundred and thirty-two thousand five hundred and fifty-three; four thousand five hundred and eighty-six were invalided; and eighteen thousand five hundred and thirteen died of their wounds or of disease; including, however, every wounded man who had been received into hospital, or who had ever been seen by a surgeon.'"

M. Vaidy, the author of an article on Hygiene Militaire, in the Dictionnaire des Sciences Medicales, states that in garrison in a healthy country, where provisions are abundant and the barracks well constructed, we may expect about five per cent. of sick in the infantry, and somewhat less in the cavalry and artillery. It is curious to observe a fact, which, however, has been often noticed, that the morale of the men makes the utmost difference in respect to health or sickness. Thus, M. Vaidy remarks that, after a successful campaign, he has known this proportional number much reduced. After the battle of Austerlitz, for instance, the French army, cantoned in Bavaria, had only a hundred sick in a division of eight thousand men.

"During a campaign, however, we ought not to calculate upon less than ten sick for every 100 fighting men, a number which is often fearfully increased if the army is very numerous and much concentrated, if it is encamped on wet ground, if it has experienced great privations, and finally, if it is discouraged by defeat or want of confidence in its chiefs. An army of 100,000 men may expect, according to Vaidy's calculation, to have 10,000 sick during a campaign, independent of any recontre with the enemy; of which number 5000 or 6000 may be medical and the rest surgical cases; but after a battle, the proportion will be reversed, and under the most favourable circumstances, he calculates upon 10,000 or 12,000 wounded, in addition to the above. To this we have sometimes to add the number of wounded left in our hands by a vanquished enemy, to whom our cares are equally due. These calculations become of great importance to medical officers, particularly as they rise upwards in the gradation of ranks, and come eventually to be consulted as to the extent of the necessary establishments for the sick, or to regulate the proportion of medical staff and hospital stores to be allotted for any given service" 66.

Such we may expect in accompanying an army to the field. But we learn,

both from ancient and modern wars, that sickness is not a necessary accompaniment, at least to a great extent, of warfare. Our army in the Peninsula was exposed to fruitful sources of disease, and sometimes suffered severely from it; yet, owing to the excellent arrangements of Sir James M'Grigor, and the medical staff under his orders, it remained in a most creditable state of efficiency. During the ten months from the siege of Burgos to the battle of Vittoria, inclusive, the total number of sick and wounded, which passed through the hospitals, was ninety-five thousand, three hundred and forty-eight. The army took the field preparatory to the battle, with a sick list under five thousand. For twenty successive days it marched towards the enemy; and in less than one month after it had defeated him, mustered within thirty men as strong as before the action, and without reinforcement from England, the ranks having been recruited by convalescents.

In the navy, the powers of prophylactic measures are most conspicuous. A long sea voyage was once considered a severe ordeal; but now a ship's company may be conducted round the world, with a smaller proportional loss of men than would happen, perhaps, under any other circumstances, or in any other given situation. Lord Nelson is said to have kept the crew of a vessel which he commanded in such perfect health, by his judicious regulations, that he did not lose a man by death in *three years*, and that on the West India station.

"The name of this distinguished officer, thus honourably connected with the health of his crew, reminds me that although it belongs to the medical officer to suggest measures for preserving the health of seamen and of soldiers, it belongs to the commanding-officer to give them due effect. The means of preserving the health and efficiency of troops has not yet sufficiently engaged the attention of the authorities in the British army, although the superiority of prophylactic over remedial measures has been distinctly pointed out by numerous writers, and must never be lost sight of. Sir Gilbert Blane remarks, that it could be made evident in an economical and political point of view, independent of moral considerations, that the health and lives of men might be preserved at a much less expense than what is necessary to repair the ravages of disease; and Sir John Pringle has observed, that 'although most of the causes of disease are hardly to be avoided in time of actual service, yet as these only dispose men to sickness, and do not necessarily bring it on, it is incumbent on those who have the power to make such provision as shall enable the soldier to withstand most of the hardships of a military life;' and, he adds with much truth, 'that the preservatives from disease are not to depend on *medicines*, nor on any thing which a soldier has it in his power to neglect.'" 68.

HOSPITALS.

We are tempted to extract a few particulars from a very interesting account, which Sir G. Ballingall gives, of the origin and objects of military hospitals. We need hardly say that the ancients, behind us in most of the refinements and comforts of civilization, were not acquainted with the value of a regulated system of military surgery, or with the establishment of military hospitals. Honours were granted to the surviving wounded; they were laurelled when living, or deified when dead, but the sober task of curing their wounds, and ministering to their maladies, appears to have been forgotten or despised in the glare of the triumph or solemnities of the apotheosis.

"The first traces of field hospitals, or, as they are sometimes called, flying hospitals, occur perhaps in the east. At any rate the Emperors Mauricius and Leo VI. had along with their armies certain followers termed *deputati* (Δεπουτατοι,) who were distributed among the cavalry, and were obliged to carry off those wounded in battle. On this account they had on the left side of the saddle two stirrups, in order that they might more easily take up the wounded behind them; and for every person thus saved they

obtained a certain reward. They were obliged also to carry with them a bottle containing water for the purpose of reviving those who might have fainted through loss of blood." 73.

In point of fact, the chief object of attention appears to have been the spiritual, rather than the bodily wants of the wounded. By an order of the Council of Ratisbon, in 742, every commander was obliged to have with him two bishops, with priests and chaplains; and every colonel was saddled with a confessor, but no mention is made of field hospitals or of army surgeons. These barbarous marauders, for after all they were little better, that spilt oceans of human blood for an ecclesiastic dogma—that committed more atrocities than ever savages were accused of, in their religious crusades, these barbarians were thus intent on providing for the welfare of their souls, but seemed to think little of the healing of bodies.

"Harte, in his life of Gustavus Adolphus, seems to believe that this prince first appointed four surgeons to each regiment, which he reduced from the number of 2000 or 3000, first to 1200, and afterwards to 1008; and Harte is of opinion that the imperial troops, at that time, had no surgeons, because Tilly himself, after the battle at Leipsic, was obliged to have his wounds dressed by a surgeon established at Halle. However this may be, it is certain, that the field hospital establishments of the imperial army, till the beginning of the 18th century, were on a very bad footing. Even in the year 1718, they had no field surgeons; but at this period the company surgeons were dismissed, and a regimental surgeon, with six assistants, was appointed to each regiment; and besides the field medicine chest, surgical instruments were provided at the emperor's expense." 74.

Field hospitals would appear to have been established in Germany, prior to the middle of the 16th century. According to Fronsperger's statement, it was necessary that there should be, along with the commander-in-chief, a field surgeon-in-chief, a doctor, who had the inspection of the field-surgeons, the barbers and their servants, whose duty was to drag the wounded from the heaps of slain, and to convey them to their masters. He was obliged to keep by him instruments and medicines, and at each muster to examine the instruments and apparatus of the field-surgeons; he decided also in disputed cases, how much soldiers, whose wounds had been cured, ought to pay to the field surgeon; and during marches he was bound to remain with the commander-in-chief. Fronsperger says also, that there ought to be with the artillery a general field-surgeon, and with each company a particular field-surgeon, not, however, a paltry beard-scraper, (*bartscherer*) but a regularly instructed, experienced, and well practised man. Field hospitals were first established in France under Henry IV. at the siege of Amiens, 1597, and so delighted were the soldiers that they called this the *velvet campaign*. However, even so late as the time of Dr. Brocklesby the accommodation provided for sick soldiers was most wretched. He observes that, to the important subject of military hospitals, "neither Montecuculli, Folard, Feuquieres, the great Conde, Marshal Saxe, General Bland, nor any other writer with whom he was acquainted, had paid much attention; for officers in this respect conceived that they had little more to do than to consign the sick to the best of those accommodations which chance, necessity, or a base parsimony, had provided for them." Sir. G. Ballingall remarks that the present arrangements are most excellent, and proceeds to enumerate them. We wish we could accompany him in his visit to the military hospitals, but, unfortunately we must here halt, and reserve any further operations for another season.

Periscope;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

I.

GLASGOW ROYAL INFIRMARY.

The following cases are selected and abridged from Dr. Macfarlane's Clinical Report. They formed the concluding portion of an article in our last Number, but want of space compelled us to defer their insertion till the present opportunity.

I. Wounds of the Bladder.

These are now known not to be necessarily fatal. If the wound is inflicted through the rectum, there is a double risk, first of urinary extravasation, secondly of recto-vesical fistula. The following case is interesting and brief.

Case I. *Recto-vesical laceration—Fistula—cure.*

"W. J. æt. 14, when attempting to leap over a wall, on the 24th May, 1826, fell, with a good deal of force, upon the sharp iron-pikes which covered it. One of these, without producing an external wound, entered the anus, tore open the anterior part of the rectum, and penetrated the bladder behind the prostate. The injury was so extensive, that, besides the free escape of urine into the rectum, the fæces, when soft or liquid, passed readily into the bladder. For the first eight days, the febrile symptoms ran high. He had abdominal pain and vomiting, but without any swelling about the anus or perinæum, or other external evidence of urinary extravasation. He was bled, and felt soothed and relieved by the daily use of the warm hip bath. When the local irritation and general excitement had diminished, the elastic catheter was introduced along the penis into the bladder, removed every second day, and worn for three months. At this time, there still remained a large fistulous opening, through which the greater part of the urine escaped into the rectum. He became impatient of the restraint and confinement under which he was placed, and refused to submit to the necessary treatment for the cure of the fistula. In about two years from the receipt of the injury, he again placed himself under my care. By retaining a catheter constantly in the bladder, dilating the anus with Weiss' instrument, and then applying the actual cautery to the fistulous opening, a cure was accomplished in about two months."

The next case is still more remarkable for its favourable issue. A boy, æt. 12, was gored by a bull, the horn of the animal penetrating between the coccyx and anus, passing through both sides of the rectum, and freely laying open the neck of the bladder, and lacerating the prostate and membranous part of the urethra to the bulb. In spite of all this mischief the boy was dismissed in six weeks cured.

II. Contusions of the Urethra.

Dr. M. refrains from relating two cases of ruptured urethra which were under his care. We regret this, as such cases, fatal or not fatal, are interesting and instructive. Three cases are detailed. In two stricture of the urethra succeeded a contusion on the perinæum. We will glance at one of these.

Case 1. J. L. received a severe blow on the perinæum, which was followed by difficult micturition, and hæmorrhage from the urethra which lasted for three or four days, and amounted to three pints. Symptoms

of stricture succeeded, and, when admitted, one was found six or seven inches from the orifice of the urethra, so small as to prevent the passage of the smallest bougie. A hard irregular tumour was also felt externally in this situation. At first it was found impossible to pass any instrument into the bladder, but at length a very small sound was got in, and at the end of six weeks a full sized one could be introduced. In the other case the occurrence of stricture was prevented by timely measures.

Case 2. W. B. æt. 16, struck his perinæum in crossing a wooden fence. In an hour afterwards, profuse hæmorrhage from the penis took place when attempting to make water, and in three days it recurred, about four pints being lost in all. Eight days after the accident he was admitted, having then some swelling and tenderness in the perinæum. *Acidulated drinks—leeches to the perinæum—cold applications—recumbent position.* In ten days the perinæal swelling was reduced to a defined tumour, about the size of a filbert, encroaching on the urethra, diminishing the stream of urine, and occasioning pain in its expulsion. These symptoms were removed by leeches, fomentations, iodine frictions, and the daily introduction and retention for an hour or more, of a large metallic sound.

"The history of this case, the existence of a tumour in the perinæum, where the injury was inflicted, and the profuse hemorrhage that was produced, showed that the urethra was partially lacerated; and the fact of the blood escaping, unmixed with the urine, was conclusive as to its not having proceeded from the bladder or kidneys. We may infer from the amount of the hemorrhage, that the injury to the urethra was considerable; yet the external swelling was trifling, and there was no threatening of urinary extravasation, an occurrence which almost uniformly attends the bursting of the urethra. Its absence can only be accounted for on the supposition, that the laceration did not extend through the entire substance of the urethra, or that, from some accidental circumstance, the aperture was closed against the stream of urine. When the laceration of the urethra is not so extensive as immediately to give rise to extravasation, I have succeeded in preventing it in two cases, by introducing a large elastic catheter into the bladder, and retaining it for several days, until the danger was warded off by the sides of the lacerated opening becoming consolidated."

III. URINARY ABSCESS.

Practical surgeons know what a formidable affection extravasation of urine into the cellular tissue is, and they also know that early scarifications will frequently arrest completely the progress of the mischief. But those scarifications must be very early and equally bold, or the cellular tissue will be destroyed so widely that persons of enfeebled constitutions will be unable to sustain the effects of its sloughing. We will not quote a case related by Dr. Macfarlane, though both important and instructive. Diffuse celluar inflammation of the scrotum and contiguous parts is occasionally mistaken for extravasation of urine. The mistake is of no great consequence, saving that the treatment is rendered unnecessarily severe. But sometimes a worse error is committed, extravasation of urine being looked upon as erysipelas. In such a case bad consequences might ensue from the neglect of free incisions. Such a case is mentioned by Dr. M.

Case. "I was requested by a surgeon in town to visit an old soldier, who had long laboured under stricture of the urethra.—Eight days previously, a small painful tumour began to form in the perinæum, which gradually increased; and was followed, in four days by a sudden swelling of the scrotum and penis, which extended rapidly to the groins, upper part of the thighs and abdomen, and was speedily productive of redness of the integuments; which, in a few hours, assumed a violet colour. The urine continuing to dribble from the penis, it was supposed that the disease was erysipelas, and that the external swelling had no connexion with the urethra. I made several free incisions into the affected parts, which were gangrenous, and gave exit to a large quantity of fetid urine, mixed with pus.

Through one of these openings, in the situation of the original tumour in the perinæum, I succeeded in passing an elastic catheter into the bladder, and drawing off two pounds of urine. From the extent of the extravasation, the dissipated habits of the patient, who was a dram-drinker, and had been long in a warm climate, and the great typhoid depression which existed, but little benefit followed this treatment. He did not survive more than twelve hours.

On dissection, besides the great destruction of the cellular texture and integuments externally, it was found that the urine was extensively extravasated into the cellular substance of the pelvis,—having passed along the crura of the penis, and under the sympathisis pubis, so as to form a communication with the sloughy cavity on the surface of the abdominal muscles."

In erysipelas attacking the scrotum the progress of the case is not so rapid, the general symptoms are not so typhoid, and the history is different. We need hardly say, however, that if the swelling be great in erysipelas, the cellular texture, especially that of the scrotum will certainly die, and incisions are equally necessary and equally useful here, as after extravasation of urine. We have on several occasions seen patients die with symptoms that puzzled the lookers-on very much. A man, for instance, was in a hospital for some disease of the rectum. Suddenly he was attacked with low typhoid fever, without apparent cause. The typhoid symptoms increased, and in two or three days the patient died comatose. On dissection a circumscribed abscess was found in the deep cellular tissue of the pelvis, unattended by any obvious communication with either the urinary organs or intestines. After lithotomy such circumscribed abscess of the pelvis occasionally occurs. The symptoms are insidious: — faint rigors, or none — frequent pulse and low fever—perspirations—towards the close typhus and delirium. We merely mention this affection, and pass on.

IV. Abscess of the Prostate Gland.

Dr. Macfarlane observes that when abscess occurs in the prostate, the investing and interlobular cellular substance of the gland is usually the part affected, the gland itself remaining sound.

Case 1. *Abscess of the prostate discharged by the Urethra—Cure.*

W. H. æt. 36, admitted Dec. 9th, 1831. Had frequent, difficult, and painful micturition, pain in the loins and dull uneasiness, with occasional throbbing in the perinæum. He had some pyrexia. The introduction of a catheter occasioned severe pain at the neck of the bladder, where much irregularity was felt, and, on examination per annum, the prostate was found enormously enlarged, but smooth and soft. The symptoms had commenced two months previously, and in three weeks the abscess had burst, and the matter unmixed with urine was discharged by the urethra. The treatment now consisted of frequent leeches to the perinæum, small doses of ol. ric. every second morning—the hip-bath and an occasional suppository at night. The symptoms gradually decreased, the purulent discharge was arrested, and in three weeks the difficult micturition had disappeared.

"This was a distinct case of phlegmonous inflammation of the prostate, which ended in suppuration, and could not be traced to any obvious cause. When there is a free communication between the abscess and the urethra, a simple straining effort will, in many cases, be sufficient to expel along the penis a considerable quantity of pus, unmixed with urine; but in general, the discharge in quantities takes place only when the patient empties his bladder; and then it may either precede or follow this evacuation, or the matter may be so mixed with the urine, as to render it turbid immediately on its being discharged.

When the enlargement of the prostate is great, and especially when the abscess involves the middle lobe, there is always more or less difficulty in expelling the urine. This sometimes amounts to complete retention, and requires the introduction of a catheter; but this ought to be employed only in the most urgent circumstances, as

the frequent introduction, or continued retention of the instrument, will be found highly injurious.

When suppuration is fairly established, which may either be in the substance of the gland itself, or in the cellular texture which surrounds it, and unites its lobes together, it is but seldom we can succeed in detecting its existence by manual examination. I have only met one case, in which, on introducing the finger into the rectum, distinct fluctuation was felt in the tumour: it was large, and projected considerably into the cavity of the bowel. This was punctured three times with a trocar, and a cure accomplished. The pain during the expulsion of the feces was most acute, and there was distressing tenesmus, from a sensation as if there was a hard body lodged in the rectum; but the pains in, or the impediment to, the evacuation of the bladder, was less urgent than usual."

CASE 2. *Abscess of the prostate—ultimate Cure.*—W. P. æt. 20, was seized, after a horse had fallen on him, with acute pain about the neck of the bladder stretching to the glans, frequent and painful micturition, tenesmus, and violent throbbing in the perinæum. In three weeks he began to discharge large quantities of pus, separate from and mixed with the urine. In three weeks more he was admitted with these symptoms, accompanied with hardness and pain in the left epididymis, as well as in the prostate. Under antiphlogistic treatment, hip-baths, and anodyne enemata, he improved so much that he was dismissed in a fortnight nearly well. In four days after this, acute throbbing pain in the perinæum with almost complete obstruction of urine came on, but were partially relieved by a sudden and copious discharge of pus from the urethra. On the next day he was re-admitted with painful and difficult micturition, each attempt accompanied by tenesmus and a desire to go to stool. The prostate, especially its right lobe, was larger than before. Under leeches, baths, &c. the symptoms were mitigated, and the discharge diminished. But in a fortnight after this second admission he became feverish, with increase of the symptoms, and retention of urine. The bladder was distended above the pubes, and the swelling of the prostate was augmented. It was necessary to use a catheter. When it touched the prostate it produced excruciating pain, and could not at first be passed. On another attempt two ounces of pus suddenly escaped, and the instrument then slipped into the bladder, and gave issue to two pints of urine. It was not necessary to use it again. After this the symptoms were —a call to make water from every quarter of an hour to every two hours, pain in expelling the last drops, and purulent discharge. The muriated tincture of iron was tried, but it aggravated the symptoms. Leeches, baths, and liquor potassæ were then employed with more benefit, and in a month from the second admission he was discharged cured.

"When the irritation at the neck of the bladder is great, the testicle becomes often affected. In the last case, the inflammation seemed to have extended along the cord, producing hardness and thickening of the epididymis, without the gland becoming involved. This irritability of the prostatic portion of the urethra sometimes continues long after the abscess has closed, and is the cause of painful and impeded micturition. For this, in addition to the usual local and soothing treatment, I have experienced great advantage from small doses of the liquor potassæ."

Dr. Macfarlane observes that in old persons abscess of the prostate sometimes proves fatal; by giving rise to urinous extravasation. An instance of this is given. The patient was an old soldier, who had long had stricture. He was admitted with rigors and retention of urine. A gum catheter was passed, but gave excessive pain, and was immediately withdrawn. Purulent discharge from the urethra followed; in a few days it was again necessary to use the catheter, which was left in the bladder for some days. A copious discharge of fetid matter and typhoid symptoms rapidly carried the patient off. On dissection the substance of the prostate formed a large supurating cavity, through which the urine

was extensively extravastated into the cellular tissue of the pelvis and perinæum.

This completes the series of cases of disease of the urinary organs. We have only to advert to those illustrative of some of the affections of the rectum and external parts of generation.

V. PROLAPSUS ANI.

Dr. M. relates three cases of this affection in order to direct attention to the utility of the treatment recommended by the late Mr. Hey. In each case the patient was advanced in years, and in each there was not simply procidentia of the mucous membrane of the gut, but also hæmorrhoidal thickening of part of it. In the second case related by Dr. M. there was hœmorrhage after the operation, and that to some extent, an instance among many of the paramount necessity of carefully watching all cases of operation about the rectum. In the present instance the dilator was used, and a small bleeding vessel secured within the sphincter. With these remarks, we think it only necessary to extract one case, the third, and the most severe.

Case. "W. A., aged 54, became a district patient in the beginning of February, 1829, on account of the above troublesome disease. The gut descended for more than two inches on every attempt to evacuate the bowels, accompanied by considerable pain and tenesmus. When he remained for a few minutes in an erect position, the same displacement took place slowly, although no propulsive efforts were employed; this, however, he could prevent by pressure on the anus. There was first projected from the anus, a circular fold of the mucous membrane of the rectum, at its verge, of a livid colour, and tuberculated appearance, soon followed by the complete descent of the bowel and haæmorrhage from innumerable points. He generally succeeded in replacing the part, by assuming the recumbent posture, and maintaining gentle, but continued pressure for a few minutes. At an earlier period, however, the protrusion often continued for hours, before it could be returned. His general health was greatly impaired, and he was unable to follow his employment, from the continued irritation and almost daily attacks of hæmorrhage.

On examining the anus after the gut was replaced, the surrounding integuments were found extremely relaxed. There existed such an unnatural looseness in the attachment of the skin around the anus to its corresponding cellular membrane, that it could be easily drawn out with the fingers, in the form of one or more large flaps. Having succeeded in two similar cases, which came under my care in the royal Infirmary, during the summer of 1826, in completely curing the disease, by cutting off the loose integuments, as recommended by the late Mr. Hey,* I determined to try it in this case. The skin was drawn as far out as possible into broad flaps, and cut off with the scissors in a circular direction, until all the superflous integument was removed, including a portion of the livid and tuberculated fold of mucous membrane which was projected from within the sphincter. The pain was trifling, and only a few drops of blood were lost. A soft compress and T bandage were appiied, and he was strictly confined to bed. For a few days, a partial procidentia took place on every attempt to go to stool. He had a good deal of pain and inflammation around the anus, with complete retention of urine, which required the frequent introduction of the catheter. In ten days after the operation, he was able to walk about, and void his stools, without any return of the disease, and in three weeks he was perfectly cured. Pressure was continued to the part for some time longer, occasional doses of castor oil were prescribed, and he was enjoined to avoid straining at stool."

Dr. Macfarlane adds the following remarks.

"There will generally be found in obstinate and long-continued forms of this disease, a great relaxation in the connex-

* "Practical Observations in Surgery, 2d edit. p. 444."

ion of the rectum at its lower part, with the surrounding textures. This circumstance, although it may not be the original cause, is sufficient, in many cases, to account for the continuance of the displacement in chronic and inveterate cases, although I believe it is generally accompanied by a diminished power of the sphincter. If the rectum, in consequence of being much irritated, as in various bowel complaints, ultimately becomes relaxed, the tenesmus, which is an invariable attendant, may so overcome the sphincter as to give rise to a procidentia. But when, as in the case now detailed, the erect position is sufficient to cause a descent of the gut, we have grounds for believing that, besides the relaxed state of the rectum, there exists a want of power in the sphincter muscle, which part, along with the levator ani, is mainly instrumental in maintaining the rectum in its natural situation. In the cases detailed by Mr. Hey, there existed, in combination with relaxation of the integuments, one or more livid tubercles at the verge of the anus, which were also removed. He expected from this operation, that inflammation of the surrounding cellular texture would be excited, the attachments of the rectum consolidated, and the power of the sphincter improved. In a majority of cases, the disease will be found to yield (although the cure is often tedious and protracted) to the local applications and internal remedies usually employed. Should it continue, however, as sometimes happens after the exciting cause has been removed, we will occasionally find that the loose state of the skin around the anus, and the relaxed attachments of the rectum at its termination, become the primary causes of the continuance of the disease. It is, I conceive, in such circumstances that this simple operation may be beneficially adopted."

VI. MORBID ENLARGEMENTS OF THE CLITORIS AND NYMPHÆ.

The clitoris and nymphæ are well known to be occasionally enlarged. Sometimes they present, especially the latter, a sort of warty tumour, which may attain considerable size. This may be attached by a narrow pedicle, or it may have an extensive surface of origin and growth. The nymphæ, in such cases, are usually removed with success. We will select Dr. Macfarlane's second case.

CASE.—*Enlarged Clitoris and Nymphæ successfully extirpated.*

Mrs. P. æt. 46, admitted Feb. 14th, 1827. The clitoris was nearly eight inches long, and of a pyriform shape; its pedicle soft, as thick as the wrist, and traversed by varicose veins; its most depending part hard, nodulated, and as large as two fists. The nymphæ hung beside the pedicle for two inches and a half, were irregular, covered by a thin white cuticle, and had a fleshy feel. The inner surface of the labia was covered by small tubercles, each about the size of a split pea, and situated immediately under the mucous membrane. On the 20th, the parts were amputated. The hæmorrhage was profuse. A catheter was introduced, and retained for several days, and when the wound began to granulate, the urine was daily drawn off. The parts were healed in about three weeks, and the patient has had no subsequent return of the disease. The diseased parts were solid and fibrous, the nodules appeared to be in some degree distinct, and were seated immediately under the investing integument.

"The clitoris of the female, as well the penis of the male, may be affected with cancer. When the crura are enlarged, indurated, irregular, and painful, we may rest assured that the disease is beyond the reach of the knife, especially when the pendulous part of the tumour exhibits the characters of carcinoma. I was present, several years ago, at an operation for the removal of a cancerous clitoris: in this case, the nymphæ were not affected. The patient was secured as for the operation of lithotomy, and an attempt made to remove the diseased crura. After a painful and protracted dissection, during which the patient lost above a pound of blood, it was found impossible to remove

all the affected parts. In a few weeks, a small fungous tumour began to project immediately above the meatus urinarius: it gradually enlarged; occasioned acute pain; bled profusely; and ultimately produced death. We ought to recollect, however, that, in a simple, benign enlargement of the clitoris, the crura may also be affected: but that this ought not to militate against the amputation of the diseased parts; for if the crura be divided, and allowed to remain, they will soon shrink and disappear."

A case of carcinoma of the clitoris is given. The woman was forty-five years of age, and attributed the commencement of the disease to a kick, eleven years previously. The clitoris was about the size of the fist, hard and irregular, containing towards its apex several deep ulcerated excavations with thickened and everted edges, from which issued a thin sanious discharge, that produced painful excoriations. There were lancinating pains. There were also vaginal discharge, pains in the back and loins, and an indurated painful, and apparently ulcerated state of the os uteri. She was sent home, and died in four months. The structure of the os uteri and clitoris was decidedly carcinomatous; there were diseased glands, some presenting the same structure, in the groins and pelvis: the disease had extended along the crura of the clitoris to their origin from the ischia and ossa pubis.

VII. IMPERFORATE VAGINA.

A curious case of this kind is given from our author's private note-book. The operation was fatal, and no uterus existed.

CASE. Mrs. C. æt. 28, consulted Dr. Macfarlane Feb. 4th, 1823. She was stout and well-formed, but pale and sickly. She had suffered from severe epistaxis, with vertigo, &c. since the age of 16: had never menstruated; had been married for twelve months, and complained of an obstruction of the vagina, which she was anxious to have removed.

"On inspection, the external orifice of the vagina was found completely closed by a thick, firm, muscular-looking substance, continuous with the inner margin of the labia, and adhering to the pubes below and around the urethra, so as to leave not the slightest vestige of an opening. It had neither the feel nor the appearance of a membrane, but was granular on the surface; and when the labia were freely separated, bands of muscular-looking fibres were seen passing to it. The little finger could, by pushing this obstacle before it, be introduced about half an inch into the vagina, which was excessively small and contracted. The external parts were well formed, and the orifice of the urethra was natural, but the clitoris was unusually small. There was no swelling in the hypogastrium, the bladder and rectum were free of obstruction, the mammæ were plump and well formed, and the sexual appetite was not deficient.

From her great anxiety to have this malformation destroyed by an operation, I agreed to perform it on the afternoon of the day on which she first consulted me. Having placed her in the lithotomy position, I commenced, with the assistance of my friend, Dr. Weir, by making an incision, with a bistoury an inch and a half in length, in a perdendicular direction, through the centre of the fleshy-looking obstruction. I then thrust forward a sharp-pointed, narrow bistoury, for more than an inch opposite the orifice, into the vagina, directing the point rather downwards, with the blunt edge to the pubes, to avoid wounding the urethra. I found, however, from the great thickness of the substance, and the uncertainty regarding the position of the parts in the track of the vagina, that a continuance of this mode of procedure was neither safe nor justifiable. I could not succeed in forcing a probe or a director through the remaining portion; I therefore divided and removed, by means of the orceps and scissors, several layers of it. By keeping a catheter in the urethra as a

guide, and by occasionally introducing the finger into the rectum, I was successful in clearing a passage fully two inches in depth. There was still, however, an obstructing portion, beyond which there appeared to be a free cavity. Through this a pair of dissecting scissors were passed, and the remainder of the obstruction divided by introducing a director into the opening thus made, getting it behind the upper part of the obstruction, and forcing it nearer the external orifice. The finger was then passed into the upper part of the vagina, which was lubricated apparently by mucus, but no uterus could be detected. A small piece of soft sponge, through which a strong thread was passed, was inserted, and a few strips of lint were placed between the external lips of the passage."

The patient could not be persuaded to remain in the house after the operation. On the 8th she was exposed to a snow-storm, and in the evening she was drunk, and committed other irregularities. Peritonitis succeeded, baffled all treatment, and proved fatal on the morning of the 12th, two hundred and three hours after the operation.

On examination there was found peritoneal inflammation. The ovaries were well formed and large—the fallopian tubes each one inch and a quarter in lenth, their fimbriated extremities being perfect. There was no uterus. In its normal situation was a portion of condensed cellular substance, about the size of a filbert, more than an inch distant from the uterine extremities of the fallopian tubes, and but loosely attached to the peritoneum. When the finger was introduced into the vagina, the cavity at its upper part was ascertained to be formed by the peritoneum, between which and the upper boundary of the obstruction was a free space, capable of containing a small lime. The vagina slit open presented an ash grey appearance. The urethra, bladder, rectum, and peritoneum were uninjured.

"The obstruction in this case was evidently congenital, and differed, both in situation and appearance, from that cohesion of the parts which is sometimes produced by neglected ulceration. An obstruction from the latter cause may occur both in children and adults; it is, however, rarely confined to the vagina, but more generally involves the external parts, as the nymphæ and labia. The most extensive case of this kind which I recollect to have met with was in a prisoner in the Bridewell of this city in 1817, during the short period of my attendance as surgeon to that establishment. From a long continued gonorrhœa and want of cleanliness, the lining membrane of the labia, and the inner surface of the nates around the anus, became excoriated and ulcerated, and adhesion by granulation took place through their whole extent, leaving only two small openings for the escape of the urine and feces. The adhesions were divided, and the parts restored to their natural state.

We are told that when the uterus is altogether wanting, or of a small size, the external parts are but imperfectly developed, and the vagina is either very short, or altogether obliterated. In this case, all the external parts were well formed and entire, and the mammæ were fully developed, yet no uterus existed—this circumstance is, however, easily explained, when we find that the ovaries were present. These organs are known to be more intimately connected with the growth of the external parts of the female than the uterus, and when they are absent, the marks of puberty are rarely if ever, exhibited."

II.

CASE OF EMPYEMA—OPERATION SUCCESSFULLY PERFORMED. By WILLM. BRIGHAM, Esq. Surgeon, Manchester.

A YOUNG gentleman, 18 years of age, having generally enjoyed good health, but subject to slight cough, which he had had from infancy, was taken ill on the 15th May, 1830. He complained of severe and continued pain in the left side, in the back and left shoulder, with slight hemoptysis. These symptoms occurred after violent exercise.

When I was called to him, his pulse was fluttering, quick and tremulous—respiration hurried—countenance suffused and anxious, and extremities cold. He appeared in a state of collapse. The pain was referred to the left side, but more particularly to the back and loins. He was directed fomentations—pediluvium—calomel—Dover's powder, and salines.

May 16th, 9, a. m. Had passed a restless night. The pains in the side and back much more severe—pulse 100 and full—skin hot and dry—breathing very difficult—the pain more fixed, and still referred to *the back*—tongue dry and furred—urine high coloured and scanty—the bowels had been very freely moved. V.S. to syncope.

8, p. m. Relieved. Leeches to the side—blisters to the sternum.

17th. Had slept a few hours—leech-bites bleeding all night. Pains not so acute—breathing much relieved.

18th. Symptoms abated—pains relieved—breathing with difficulty.

From this period, for several days, there was but little pain; he had a constant, harassing cough, with much expectoration of viscid mucus, and, from the commencement of the attack, was unable to lie down.

June 1st. The breathing became gradually more distressing, and the patient required daily a more elevated position of the body. He lay on the bed, in a half-bent posture, with the head and shoulders leaning over his left side, endeavouring constantly to obtain a fixed point for support. About this time, the pulsations of the heart could be felt distinctly all over the right side of the chest, but more especially towards the point corresponding to the cartilages of the fifth and sixth ribs, and over the epigastrium. On the left side, the pulsations were entirely wanting—no beat could be felt. He was always reclined on his left side, supported by pillows, finding relief from moderate pressure applied to the same side.

June 9th. On this day Dr. Lyon was requested to see the patient. There was now great difficulty of breathing—the cough constantly troublesome—copious expectoration of frothy mucus—progressive emaciation—disturbed sleep—night sweats. Heart beating forcibly on the right side of the sternum, and not at all on the left—pulse 132—no resonance on percussion of the left side of the chest—œdema of the lower extremities—bowels rather loose—fæces generally dark or clay-coloured—urine turbid, high-coloured, and depositing a lateritious sediment—appetite capricious—spirits drooping.

12th. Aphthæ appearing all over the mouth and fauces—pulse 120.

13th. Aphthæ extending rapidly, occasioning much distress—cough incessant—great languor—strength daily declining—pulse 144—more generous diet allowed, with wine.

18th. Aphthæ subsiding—tongue cleaner.

Notwithstanding this improvement, all the symptoms occasioned by accumulation of fluid in the left cavity of the chest still continued. An operation, therefore, to remove this pressure now became a very important consideration.

The unpromising appearance of the constitutional symptoms, and the uncertainty of the extent of organic disease which might exist in the lungs, were reasons for hesitating to proceed at once to an operation, which seemed, nevertheless, to afford the only chance of recovery. Yet, the strength and spirits of the patient having partially rallied—the aphthæ subsided, the sputa being chiefly mucous—the voice clear and strong, and the patient anxious to submit to any means which might be recommended, it was determined to take the earliest opportunity for performing the operation of *paracentesis thoracis*.

About this period, the integuments over the middle of the 5th intercostal space were protruded, and formed a small fluctuating tumour; and, two days later, a similar prominence was observed below the left clavicle. The left side of the thorax was also ascertained to measure four inches more than the right.

Operation. On the 26th, the integuments were divided with a lancet to the extent of two inches, in the situation of the prominence before mentioned, nearly corresponding to the apex of the heart when in its natural position. A small trocar was then carefully introduced, and three pints of clear pus passed through the canula. The opening was then closed for a few minutes, to allow the patient to rally, as he seemed much exhausted; then three pints more were discharged. There was no difficulty in preventing the passage of air into the chest, nor any spasmodic action of the muscles of respiration. The canula was now removed; the wound closed, and a broad flannel roller passed round the chest.

After the operation, the patient, though much exhausted and faint, was evidently very much relieved and composed. In two hours a powerful opiate was given, which procured some sound sleep.

27th. Passed a good night, breathing with comparative ease—pulse 110. The wound had closed, and on separating the edges and introducing a probe, a pint of pus passed off. The wound was afterwards kept open by small pieces of lint for a few days, when the parts seemed no longer disposed to close.

29th. Respiration decidedly more free, and the patient could lie on his left side, from which pus continued to ooze in considerable quantity. The motions of the heart were still felt on the right side only; and there were no indications of the least respiration being performed by the left lung.

From this period his improvement was progressive, the aphthæ and dyspnœa ceased, the night sweats also gradually abated.

For the first three weeks the discharge was very profuse, and during the first week a pint of pus oozed freely from the wound daily.

In about a month he was able to change his bedroom, and soon afterwards took gentle exercise.

The heart continued to beat exclusively on the right side, the left seemed perfectly dense without the least resonnance on percussion.

August 9th. The patient went to the sea-coast and remained there a month with improvement in every respect.

The discharge continued gradually to decrease, except when he had catarrh or febrile symptoms, when it always became more profuse and more serous. This change was so remarkable that his mother could tell by the appearance of the discharges whether he had caught cold, before he began to complain of illness.

June 28th, 1831. The health has been gradually improving, he has gained flesh; appetite and digestion good; lives well and takes exercise in all weathers.

About five months after the operation, the left side of the chest was flattened, much contracted, and measured $1\frac{1}{4}$ inch less in comparison than the right.

June 28th. The left side of the chest is increased in circumference $\frac{3}{4}$ of an inch. The right side on percussion sounds quite clear—the left quite dull in every part. The pulsations of the heart are strong and full, still on the right side, but more inclined to the centre of the chest. The left side remains without any beat perceptible in the natural situation of the heart.

Oct. 27th. Slight fever, catarrh, with great tenderness about the edges of the wound, discharge rather checked from obstruction over the orifice.

Fomentations—cataplasms, &c. afforded much relief. The following morning the discharge as profuse as usual.

Dec. 10th. Progressive improvement. The discharge decreases slowly.

23d. Although 18 months have elapsed since the operation, and no untoward symptoms having arisen since that time, still the discharge from the chest continues profuse, and at times on coughing or sneezing, is jetted out with *considerable force and in large quantities.*

April 6th, 1832. There is no further tenderness or uneasiness at the side. The discharge has been gradually decreasing

for the last two months, and is much changed in its character, being quite serous.

May 15th. The discharge has entirely ceased, and the *opening closed.* No unpleasant symptoms occurring at the time. The patient is gaining strength and flesh rapidly, following his usual habits, and in perfect health.

Aug. 2d. Continues well. It is worthy of remark, that by an accurate measurement of the chest at this time, the left side is only ½ an inch smaller in circumference than the right.

III.

WOUND OF THE HEART—PATIENT SURVIVED A MONTH.

Jan. 29th. A MAN, aged 40, attempted to commit suicide by plunging a large kitchen knife into his chest. It entered between the 5th and 6th left ribs, a few lines from the sternum. He fell down on the spot, and was carried insensible to the Hôtel Dieu. When the wound was examined, it was manifest that the cavity of the chest had been opened and probably also that the lungs had been injured, as the air entered and escaped freely during the act of breathing; adhesive straps were applied. Soon afterwards symptoms of great collapse came on; the pulsations were so feeble, as to be with difficulty felt at all; but their rhythm was regular. The patient every now and then groaned deeply, and could not be roused to answer questions. These symptoms were deemed to be the effect of a nervous shock, rather than of inward hæmorrhage; little blood had escaped outwardly from the wound; but it was uncertain whether it might have flowed into the chest.

The auscultation and percussion of the thorax were adverse to this supposition; for the præcordial region when struck gave out a clear sound; and the movements of the heart, although feeble, were regularly natural. A weak respiratory murmur was audible on both sides of the chest. The indication was to cautiously support the drooping powers of life—the patient was enveloped in warm blankets, and gentle restoratives were administered; on reviving, he vomited several times, coughed frequently, and expectorated a little mucus, without any admixture of blood. On the following day symptoms of reaction having come on, he was twice bled and purged; on the 31st he was again bled, with great relief to all his pains; the expectoration became more copious; yet there was no râle on auscultation. He continued to mend, and at the end of the week he thought that he was able to leave his bed; but upon attempting to rise, he was seized with dyspnœa, palpitations and extreme anxiety; and now he was unable to lie on the left side.

By proper treatment these symptoms were relieved; but they again returned in all their violence some days after. He was bled largely with benefit for the time. The severe pungent pains at the extremity of the ensiform cartilage caused much distress; and to these were added occasional delirium, sweatings, œdema of the limbs, diarrhœa, and dyspnœa; the lips began to assume a purplish hue. The diagnosis of this period was, that pleuritic effusion had taken place. On the 22d day from the receipt of the injury, the patient was seized with violent shiverings, which returned regularly at the same hour of midnight several times; the tongue was covered with a brown crust, the lips were parched, the face became haggard and hippocratic, and the breathing more and more laborious. He died on the 27th February.

Dissection. Two pints of a bloody serum in the cavity of the right pleura; texture of the right lung and pleura nearly healthy. On the anterior surface of the pericardium, opposite to the seventh intercostal space, was observed a transverse slit which nearly corresponded to, but was somewhat lower down than the external wound, which was now found to have passed through, immediately exterior to the internal mammary blood-vessels. On introducing a probe through the opening in the pericardium, it was obstructed by

the adhesions which had been formed between this membrane and the heart; these were however more numerous and firm, posteriorly and inferiorly; where they did not exist, a layer of fibrine had been formed; but there was no serum or purulent fluid in the bag. Opposite to the slit of the pericardium a transverse wound of the anterior surface of the right ventricle was to be seen; it was about five lines in length, and half a line in depth; its situation was at a finger's breadth from the septum ventriculorum; the edges were whitish, and were slightly coherent. Around the pulmonary artery, the apex, and the posterior surface of the heart, false membranes had been thrown out; and at these parts the investing serous membrane was deeply red and inflamed. The right proper auricle was invested with a grey coloured, and uneven layer of fibrine, which adhered to the adjacent parts; the right sinus venosus was highly injected, and the serous membrane could be easily torn from the cellular web underneath, which was slightly infiltrated with serum. All the cavities of the heart were dilated.

Reflections.—The preceding case shews us that wounds of the heart are not necessarily, and certainly not in all cases quickly fatal. The circumstance of the wound being transverse, accounts for the very imperfect union of its lips. The great collapse, the coldness of the extremities, the smallness of the pulse, and the dyspnœa, are not the pathognomonic of such an injury; they equally attend wounds of the diaphragm, and of any large internal vessels. The symptoms of pericarditis during life were not very distinct; the frequent syncopes, the palpitations, the irregularity of the pulse, being either absent or only imperfectly manifested. In the present, as in some other similar cases, which have been detailed by authors, the pain was felt chiefly at the xyphoid cartilage and radiated to the right and left sides in the direction of the pillars of the diaphragm. —*Journ. Hebdom.* No. 97.

IV.

NEW THEORY OF THE SOUNDS OF THE HEART.

Dr. ROUANET, in an ingenious thesis, explains the phenomena of the two sounds in the following manner. The first, or dull sound, is produced by the shock, or impulse of the tricuspid and mitral valves against the auriculo-ventricular orifices, and this shock is caused by the pressure of the blood on the valves during the contraction of the ventricles. The second or clear sound arises from the succussion of the blood in the distended aorta and pulmonary artery, backwards upon the semilunar valves, during the dilatation of the ventricles; the author considering that at this moment, there is a tendency to a vacuum in the ventricle, and that therefore there must be a strong impetus, or rushing back of the blood upon the closed semilunar valves.

The first sound is heard at the commencement of the ventricular contraction; hence the idea that the sound was owing to the contraction of these cavities; and as the sound is momentary, it has been believed that the systole of the ventricles is also of the same brief duration. The cause of its being duller than the second sound is that the tricuspid and mitral valves are larger, and that the parietes of the auriculo-ventricular apertures are thicker than the semilunar valves and the coats of the aorta and pulmonary artery.

The pulse is not quite synchronous with the first sound, but follows immediately after it. To explain the cause of this, we must remember that the tricuspid and mitral valves close at the very commencement of the ventricular systole, whereas the blood is not entirely expelled till the contraction is over. Such, however, is the rapidity of the contraction, that the second sound is heard almost immediately after the first. The second sound is more clear and sharp than the other, because the valves, by the shock of which it is produced, are smaller and thinner, and because the parietes which transmit the

sound are more sonorous than in the former case.—*Ibid.*

V.

Reclamation of M. Pigeaux, in which he claims the Merit of discovering the true Theory of the Sounds of the Heart.

M. Pigeaux asserts that the opinions which Dr. Hope has published, on the causes of the double sound of the heart, are neither the most novel nor the most plausible of those which have been advanced, and that France may still claim the honour of having given the most satisfactory explanation of the phenomena. The four following are the propositions in which he unfolds his own views, claiming for them the merit of priority of announcement.

1. The sounds of the heart are referable to the shock of the blood against the parietes of the ventricles and of the great vessels, and not to the contraction of the ventricles and auricles.

2. The clear sound appertains to the ventricles.

3. The impulse of the apex of the heart against the ribs is not synchronous with the pulse of the arteries.

4. The silence or repose of the heart takes place after the contraction of the ventricles, and follows immediately the clear sound.—*Archiv. Général, July*, 1832.

VI.

On Spontaneous Ruptures of the Heart, &c.

When an ordinary muscle becomes ruptured, the rupture takes place almost always in a transverse direction; in the heart, on the contrary, a longitudinal rupture of the fibres is much more common than a transverse one. In forty-four cases, out of 54 of fatal rupture of the heart, the perforation was found in the left ventricle; in eight, the right ventricle was the seat of it; and in the other two, it had taken place between the two auricles. The thickest parts of the ventricles were ruptured in 45 of the cases; and the intriventricular grooves in seven cases only. The ruptured cavities were dilated and attenuated in seven cases; and appeared to be normal in structure in the remainder, except in three of them, where the parietes seemed to be partially or locally rendered thinner in substance. If to the 13 cases of general ramollissement of the affected organ, he added 27 cases in which morbid alterations of structure, varying, indeed, as to degree, but all tending to a solution of continuity, were observed, and nine cases in which the special alteration is not mentioned, we shall find that the opinion of M. Rostan, that almost all cases of rupture of the heart are spontaneous, is far from being correct. Equally remote from truth is the assertion of M. Bland, that the almost exclusive cause of this fatal accident, is a gelatiniform softening of the heart's substance: there are many other morbid changes besides this ramollissement. To recur to the comparative frequency of transverse and longitudinal rupture of this organ, it appears that 13 were of the former description and 36 of the latter, or in a direction parallel to the muscular fibres.

The difference of the direction is probably attributable to the nature of the preceding morbid change of the texture, and to the manner in which it is generated; hitherto it has been a very common mistake to regard transverse rupture of the heart as quite analogous in its etiology to a transverse rupture of other muscles, such as the gastrocnemii; but this is erroneous, for, in the one case, a morbid change always, and, in the other, seldom or never, precedes the accident. In ruptures of the heart, as in aneurisms of the vessels, the parts have almost always been found diseased in the first instance; and the diseased depositions are either of an atheromatous, steatomatous, tubercular or cancerous nature. In some cases the rupture is incomplete, affecting only a certain set, or stratum, of the muscular fibres, and not penetrating through the entire thickness of the parietes. It is not improbable that, in many such cases of internal incomplete rupture, the membrane which lines the cavities of the

heart may be burst at first, but afterwards may be renewed and repaired, so that the case may be regarded, on the autopsy, as one of simple general dilatation of the cavity, and not as originally a rupture of its parietes. If this idea prove correct, it will follow, that the number of internal ruptures of the heart is nearly equal to that of the external ones.

M. Cruveilhier says that a muscular apoplexy of the substance of the heart is one of the principal causes of rupture; but M. Pigeaux thinks that the morbid change, so designated, ought to be viewed rather as subsequent to, and an effect of, than the cause of lacerated fibres; the rupture, indeed, may not have been complete before the sanguineous effusion and infiltration, but probably takes place only in some of the muscular fasciculi. Another argument against the belief, that ruptures of the heart are analogous to ruptures of other muscles, and are caused by the force of the ventricular contractions, is, that these accidents are very rarely seen to occur in the auricles, and yet the force of their contractions is fully as great, in proportion to their thickness and strength, as those of the ventricles.

It is very probable that, when rupture of the heart does happen, it takes place rather at the moment of its dilation than of its contraction; the shock and impulse of the blood, as it rushes in upon the softened and diseased part, operating as the immediate agent. This explanation accounts for the extreme rarity of rupture of the auricles, because, in them, ramollissement seldom occurs, and the rushing in of the blood is comparatively feeble; and we now no longer are surprised at the rupture of the ventricle, being so frequently in a direction parallel with its muscular fasciculi.

Hitherto it has been too much the case to attribute dilation of the cavities of the heart to some obstacle, or impediment, to the free flow of the blood from them: such was the opinion of Corvisart; but of late years, M. Pigeaux has called its correctness in question; and, after a most studious examination of the subject, has arrived at the following conclusions: 1, Dilatation of one or more of the cavities frequently occurs, without any contraction of their orifices. 2, Contraction of the orifices often is found, without any dilatation of the cavities. 3, The condition of the lungs has very little influence on the state of the right ventricle (this is proved by the fact stated by M. Louis, that out of 105 cases of phthisis, dilatation of the right side of the heart existed only in three), and, therefore, à fortiori, the state of the left ventricle is still less influenced by that of the right one. 4, The impulsion of the blood is the efficient cause of dilatation. 5, The mechanism of the formation of cardiac aneurisms is quite similar to that of the formation of arterial aneurism. 6, The force of the ascent in the veins, and ingress of the blood into the auricles (a force which exerts a pressure equal to that of several atmospheres), compensates for the absence of and is nearly equivalent in force to, the strong impulsion of the blood into the ventricles. 7, The weight of the blood which remains behind in any cavity, after its systole, may frequently co-operate, with the impulsion of it to give rise to dilatation. 8. A change in the firmness of the parietes of the heart is by far the most common disposing cause of dilatation. 9, Any mechanical impediment to the free egress and course of the blood, must favour and aggravate the effects of its impulsion.—*Journ. Hebdom.* 104, and *Révue Med. Sept.* 1832.

VII.

CURIOUS MALFORMATION AND ORGANIC DISEASE OF THE HEART.

A FEMALE, aged 25, was attacked with typhus fever in 1824. On the seventh day of the disease, she suffered much from violent palpitations, which lasted for several days, then ceased for a time, and again returned at intervals; distressing vomitings existed at the same time, and in the progress of the fever, delirium, cough, miliaria, gouty pains and œdema of the

feet supervened. After the lapse of five months, during the greater part of which time she had been so afflicted with dyspnœa and palpitations that she could walk only at the slowest pace, a violent hæmoptysis came on. By depletion she recovered, and the dyspnœa and palpitations were abated; but every now and then they returned with great severity. In Feb. 1827, the catamenia were suppressed, and a general breaking up of her health ensued. She died five months after this period, and three years and a half after the attack of typhus. For some time before death, the palpitations had become most afflicting, and were always accompanied with vomiting; the voice also was lost.

On dissection, the heart was found flabby, and devoid of a right auricle; in its place was a venous canal, an inch long, and an inch and a half wide, which extended from the heart to the junction of the two venæ cavæ; the only trace of the sinus venosus was a small portion of the septum, but there was a more considerable vestige of the auricular appendage; its size was about that of a large pea. Where the venous canal was united to the heart, a circular ridge marked the place of the tricuspid valve; the opening, however, was so large, that the canal, and the upper portion of the right ventricle, formed but one continuous cavity; the lower portion of this ventricle was separated from the upper by transverse fleshy pillars, so that there was an upper and a lower cavity in the right ventricle; the pulmonary artery was considerably enlarged; the left side of the heart was of small dimensions, but of normal structure; the lungs were studded with tubercles.—*Hufeland's Journal, July*, 1831.

VIII.

CASE OF PERICARDITIS, WITH REMARKS. By M. ROGER.

A GENTLEMAN, 26 years of age, was suddenly seized with an acute pain in the præcordial region, and with dyspnœa. He was bled freely and relieved. When he entered La Charitè, four days afterwards, the following were his symptoms. He could lie on either side, without distress, but not upon his back; for the dyspnœa was always increased when he attempted to do so; the breathing was hurried, short, and much distressed—to speak caused him great uneasiness; a severe pain was felt in the region of the heart, extending to the epigastrium; there was a constant cough, but without expectoration, the chest was sonorous on percussion at every part, except over the cardiac region; the respiratory murmur was normal, save at one or two places, where a sibilant râle was heard. The pulsations of the heart were so feeble as scarcely to be felt, and when they could be it was found that they were irregular, and were not synchronous with the pulse at the wrist; the pulse was also very small, feeble, intermittent, and unsteady, sometimes rapid, and at other times not more than 65 or 70 beats. To the above symptoms was added general pyrexia. Demulcents, refrigerants, venesection, a blister over the heart, and low diet, were ordered. On the next day (20th) he was better; cough less troublesome, and the breathing easier. To continue the same medicines; to be again bled to 12 ounces, and to have an emollient enema. The symptoms continued to decline till the 23d, when the report was, that the pulse was less irregular, the cough almost gone, the pain had nearly ceased, the respiration free of all râle; the patient could lie on his back, and the fever had much subsided. On the 26th, the pulse was nearly regular, but frequent; the beats of the heart could not be felt by the hand, but were heard distinctly by the ear; their rhythm was quite normal, but, upon listening very attentively with the stethoscope over the region of the heart, a sort of creaking, or new leather sound, as if the two surfaces of the pericardium kept rubbing against each other, could be heard. On the first of June, almost all the symptoms had disappeared; the pulse was quite natural; the beats of the heart could be perceived both by the hand and by the ear, and the patient felt himself so well that he left the hospital.

Remarks. The preceding case is a good specimen of the ordinary course of pericar-

ditis; we observe that there was an acute pain in the cardiac region, that it came on suddenly and without warning, that it was accompanied with palpitation and feeling of great oppression, with irregularity and intermittence of the pulse, which, at the same time, is often not synchronous with the systole of the heart; and that there was a dull sound over the cardiac region on percussion to a greater extent than is natural. It is not common to find all these symptoms combined in one case: and many examples are on record, where all the morbid signs of pericarditis have been noticed on dissection, while not a symptom of the disease had existed during life. Hence Andral mentions six varieties of pericarditis, according to the symptoms which it exhibits. 1, Pericarditis, in which all the symptoms are present. 2, When the pain is awanting, and the other symptoms are present. 3, When the pain and irregularity of the action of the heart and arteries are awanting, and the only symptoms are dyspnœa, and dulness on percussion. 4, When the only symptom is dyspnœa. 5, When there is no characteristic local symptom whatsoever, and there are only general or systemic symptoms of disorder of the nervous system. 6, When neither local nor general symptoms of any kind exist, and the disease is, therefore, altogether latent. The peculiar sound which we have denominated the new-leather sound, or that which we hear when a piece of new leather is pressed or rubbed, has also been recognised in cases of pleurisy. Our prognosis in pericarditis ought always to be extremely guarded, as quick alterations from better to worse often take place unexpectedly in the course of the disease, and the patient may expire at the very time when the most dangerous symptoms had vanished, and when the physician entertained just hopes of the recovery. According to M. Louis, there is, perhaps, not a case on record of pericarditis, which has been detected during life, with a fortunate issue; but to the truth of this assertion we cannot accede; and, independently of the above and many other similar cases, we may allude to the circumstance of adhesions of the pericardium to the heart being sometimes found after death, and yet the patient, who may have died of another disease, was never suspected of having at any time laboured under pericarditis. These adhesions, therefore, prove that the disease is not necessarily fatal.—*Jour. Complément. Aug.* 1832.

Obs.—No allusion is made by the author to the presence or absence of the "bruit de soufflet" in the preceding case. The practice of Dr. Latham, and, of many others in this country, shews that it is very generally met with in pericarditis—the rationale of its occurrence being probably the increased irritability of the heart.—ED.

IX.

IDENTITY OF MAGNETISM AND ELECTRICITY.

UNQUESTIONABLY, the most important of all discoveries relating to the voltaic pile is that made by Ærsted, that a wire, connecting the two ends of a pile in action, has the power of turning aside from its direction a magnetic needle, which is brought within a certain distance from it. The polarity, declination, and variation of the needle had been long known and intimately examined, but no satisfactory hypothesis to explain the nature of the magnetic power had ever been proposed, although such men as Gassendi, Descartes, Euler, Bernouilli, and Hansteen had laboured in the field of enquiry; hence, magnetism was always regarded as a distinct physical agent or power, and not as one merely associated, far less identical, with any of the other agents of the natural world. The brilliant discovery of Ærsted has at once dissipated all uncertainty and doubt, and has given rise to many most interesting and important researches in every country of Europe. Ampère has shewed, that two parallel currents of electricity mutually attract and repel each other, according as the course and direction of them are similar or not. Arago discovered that the fluid of the galvanic pile has the property of decomposing the magnetic fluid, under certain circumstances, and of generating or exciting a polarity in a steel plate. Schweigger and Poggendorf contrived a most ingenious instrument to exhibit any electrical current, however fee-

ble and inconsiderable it may be, and, with the aid of this instrument, have been able to give more precision to any enquiries on the development and influence of electricity upon chemical actions.

And, lastly, Siebeck has shewn, that an electrical current may be produced in metals, without the intervention of any liquid, and merely by the action of caloric. By thus establishing the identity of magnetism and electricity, these authors have made a great stride to the knowledge of nature's laws; and when we reflect that there is a strong presumption that electricity, caloric and light are but one agent, or power, variously modified, and that there is a closer connexion between the phenomena of electricity and those of chemical affinity and of general attraction, we have reason to think that we are on the eve of some of the grandest and most important physical discoveries.— *Ibid.*

X.

INVERSIO VESICÆ.

THE following case is published in the first number of a contemporary periodical, to which we bid hearty welcome, and wish every success—the Liverpool Medical Gazette. The author is Dr. P. J. Murphy.

"Jane R——y, æt. 4, admitted into the county of Meath Infirmary, July 9, 1829. Her mother stated that she had been seen by a medical gentlemen six hours previously, who had represented the disease under which she was suffering to be prolapsus ani, but failed in reducing it, after a tedious trial. On learning that mortification would most probably be the consequence of its non-reduction, she became alarmed, and brought the child to Mr. Nicolls of Kavan, who, having satisfied himself that it was some unusual disease, immediately brought her to the infirmary, where she was seen by Dr. Byron, the present surgeon to the Infirmary. For examination she stood on a table, with her face towards the examiners, and our first impression certainly was that of it being a case of prolapsus recti. We prepared to reduce it in the usual manner, by placing her on the back, elevating the head, and fixing the thighs on the abdomen. Catheters were also in readiness to empty the bladder. Immediately after having thus arranged the patient, the anus and perineum were plainly discernible. A closer examination now became necessary, and the following appearances were noted down. A pyriform tumour, the size of a small hen-egg, depends from between the upper portion of the labia-pudendi, colour of a dark mahogany, the base below, the apex above; the little finger oiled and introduced per anum, communicates no motion to the tumour, nor can any thing unnatural be detected. On raising the tumour towards the pubis, the vagina was seen, but the meatus urinarious could not be traced. Some congenital deformity was now suspected, but the mother's answers which were very clear, satisfied us on that point. We now sought to ascertain if the bladder were inverted. The orifices of the ureters were looked for, but not discovered until a very slight traction of the tumour downwards rendered the inversion complete. A small silver probe was passed up each orifice, which, on being withdrawn, was followed by urine, almost devoid of either smell or colour.

REPLACEMENT—The neck of the bladder was steadied by the thumb and forefinger of the left-hand, and the fundus having been pushed upwards by the end of a gum elastic catheter, its re-inversion was easily effected. The catheter was retained there for a few hours by an assistant. Some tenderness of the public region following, attended with vomiting, leeches, warm-bath, and castor oil were prescribed, to which those symptoms quickly yielded. On the 17th of July she was discharged cured.

OBSERVATIONS. — That the bladder could be completely inverted, I had, until then, deemed anatomically impossible; of course, it can take place only in the female. I am not aware that there is any case on record. I certainly have not been

able to consult the 'Cas Rares.' It is true that Mason Good says something about prolapsus vesicæ into the urinary passages, under two forms. He quotes from Sauvages.

First form, a protrusion of the inner membrane, in consequence of its separating from the general substance of the bladder, visible in the meatus, urinarius, of the size of a hen's egg, subdiaphanous and *filled with urine*. Sauvages' case is quoted from Noel, who met with it in a virgin, who was, from the *first*, peculiarly troubled with retention of urine, accompanied with frequent convulsive movements. The state of the tunic was proved by dissection. But this case is no ways analogous to the one I have just related. I am inclined to consider it a case of congenital malformation from the word *first*, which signifies in the above case, from birth, or perhaps it was anasarca of the submucous tissue from inflammation. It is stated to have been *filled with urine*, but, if separated from the general substance of the bladder, how could it be filled with urine unless from some opening by ulcer, or otherwise? Mortification must have been the consequence of such effusion.

The second form, he tells us, is chiefly found among women who have borne many children. The protruding cyst drops down into the urinary passage to about the length of the little finger, and is sufficiently conspicuous between the labia.* He gives a case from Solingen. Where the anterior wall of the vagina has been destroyed, and a communication formed with the bladder, an inverted bladder is by no means uncommon. I do not remember any cases of inversion where the destruction was confined to the urethra alone. Anatomically considered, inversion is more likely to take place in the young than in the aged. In the child, the shape of the bladder, both in its distended and contracted state, is pyriform, the base above, the apex below; while its axis is almost perpendicular; in the adult, its form, when distended, is oval; when contracted, a flattened triangle, its long axis oblique, anteriorly pointing to the linea alba midway between the pubis and umbilicus, posteriorly if produced will touch the extremity of the coccyx. In consequence of the non-development of the pelvis of the child, the bladder is almost entirely in the hypogastric region, subject to the action of all the abdominal muscles, particularly that of the pyramidales and the lower divisions of the recti, from which it is separated only by a thin fascia. In the adult it lies altogether in the pelvic region, unless when distended, and, as it is only in the contracted state that inversion can take place, it is almost entirely withdrawn from the influence of the above-mentioned muscles; moreover, in the child the ligaments of the bladder are weak and yielding, the urethra absolutely shorter, and there is scarcely any angle formed between the bladder and urethra, which must favour inversion as much at this period of life, as the contrary form tends to prevent it at a more advanced time. Inversio vesicæ is not analogous to the inversion of any other part of the human body. It resembles that of the uterus more than that of any other organ. But the cause of the latter being inverted is easily understood, namely, a forcible separation of the placenta, polypus, &c.; and, did the same causes exist in the bladder, no doubt we should have inversion very common; but in the case I have just related the surface was minutely examined for either polypsus or an adhering calculus, but its healthy appearance was sufficient testimony that none of those causes existed. The inversio uteri in the unimpregnated state, has been denied by some, and, no doubt, if in this state it had not been subject to polypus, the opinion would have been correct; but I have seen

* "Dr. Good seems rather to describe prolapsus vesicæ than inversio, but as he places both inversio and prolapsus uteri under the genus "Œdoptosis," there is some difficulty in understanding exactly what disease he intended to describe."

a polypus completely invert the uterus, although unimpregnated, and Dr. Byron mentioned to me another which occurred in his private practice. Could the inversion have taken place in the following manner? In its contracted state the internal surface of the fundus might have easily fallen down on the opening of the urethra, so as to form something like a partial inversion. In this case its serous surface would have formed a funnel, the concavity looking upwards, if a portion of intestine filled this cavity, a sudden exertion of the abdominal muscles might have completed the inversion."

XI.

ON THE VARIOUS SORTS OF PERMANENT FLEXION OF THE FINGERS, AND OF THEIR DIAGNOSIS.

1. THE first that we shall mention, is that which is caused by a contraction, or puckering of the palmar aponeurosis. Dupuytren has the merit of having first distinctly pointed out the true nature of this affection, and of the treatment which it requires; namely, the section of this strong aponeurosis.

2. A permanent flexion of one or more fingers may be the result of some disease or malformation of their joints.

Case. A young man had white-swelling of the ankle-joint. The little finger of the left hand had been permanently contracted in the form of an arch, from his infancy; the phalanges did not move, the one upon the other; but there was free motion between the finger and the metacarpal bone. No hard cord or projection was felt in the palm at the root of the little finger, when this was forcibly bent backwards, or extended. In short, the permanent flexion in this case arose from an anchylosis of the phalanges. In some cases it is produced by a synovial cyst forming over one of the joints; this mishap is not very unfrequent among tailors; in others by an irregularity, or unevenness, of the articular surfaces of the phalanges. We observe such cases among tailors, seamstresses, and especially among knitters. In them a contraction of the little finger is not uncommon, and it proceeds from some abnormal change in one or other of the joints.

Case. A young female, who worked in the manufactory of lace, applied to Dupuytren, to relieve her of a contraction of the four fingers of both hands upon the palms; they were bent so as to form nearly a quadrant of a circle. The phalango-metacarpal joints were quite free; when the first phalanx was strongly bent backwards, no tense tendon or cord was to be felt.

3. A third variety of the affection is, when it is caused by a division of the tendons of the extensor muscles. A person applied to Dupuytren under the following circumstances. The two last fingers were constantly bent upon the palm of the hand; yet on extension, they could be readily made even with the others; but no sooner was the extension withdrawn, than the fingers again became bent. While extended, no hard cord was to be felt on the palmar, or on the palmar surface of the finger; and moreover, each joint might be easily moved. The patient had received a sabre cut on the back of the hand, and the tendons of the extensors had been divided. Nothing could be done for him.

4. A puckered cicatrix of the skin will sometimes cause flexion of the corresponding finger or fingers; hence the importance of keeping the hand extended during the healing of any wound, sore or burn.

5. A lesion, or injury of the tendons of the flexors may have the same effect. This variety is apt to be confounded with, and mistaken for the first, or that which results from a contraction of the palmar aponeurosis: but in the latter case the finger cannot be made to yield to any extension, and the tense cord, which was not to be felt before, is now readily recognized during the effort. When, on the contrary, the malady has been caused by an injury of the tendons, the projection, which was very distinct while the finger is bent, becomes much less so, or altogether disappears when it is forcibly stretched. An example of this variety is detailed: a tu-

mour had been exercised from the finger, and during the operation the sheath of the tendon had been opened.

6. This last species of permanent flexion of the fingers is that which arises from the loss or wasting of the substance of the flexor muscles. This may be destroyed by a gun-shot wound of the fore-arm, or by laceration, from any violence. In such cases there is always more or less paralysis, in consequence of the injury done to some of the nerves. The different joints of the fingers remain quite flexible; but when they are forcibly extended, pain is felt at the cicatrix of the wound.

It must be altogether unnecessary to state that these different varieties of the above malady require different modes of treatment, according to the nature of the exciting cause.—*Journ. Comp. Sept.* 1822.

XII.

CASES OF DIFFUSED INFLAMMATION AFTER BLEEDING IN THE FOOT.

Case 1. A young woman was ordered to be bled in the foot, at the Hôtel Dieu, in consequence of amenorrhœa.

The operator made several attempts to open a vein at the external ankle, but failed; the saphena vein was afterwards opened. In a few days appearances of spreading inflammation of the skin and cellular substance shewed themselves, and afterwards great tumefaction, pain, and general disturbance. Leeches and poultices were applied; but the disease became worse and worse, and the patient was delirious, and suffered much from vomiting, purging, and extreme sensibility of the abdomen. She was brought into the surgical wards on the 20th day from the commencement of the symptoms. Bleeding from the arm was immediately ordered, and two long incisions were made along the foot; much fetid and sanious matter flowed out; and a third incision was made at the upper and inner part of the leg, where a large purulent collection had formed. Thirty leeches were applied to the epigastrium. Gangrene of the back of the foot came on; and an intense inflammation had invaded the upper part of the thigh. Forty leeches were immediately applied to the part. A long incision was made on the outer side of the thigh. It was not till the end of the sixth week that the inflammation of the limb had entirely ceased; the tendons of the extensors of the toes sloughed off. In two weeks more most of the incisions had healed, and the large exposed surface of the foot was healthily granulating. In six weeks more she was able to leave the hospital, but the limb as yet was little able to execute any movements.

Case 2. A woman chanced to prick her finger with a thorn; inflammation of the arm speedily came on, and also symptoms of extreme gastro-enteritic irritation. When she was brought to the hospital, three weeks after the accident, she could give no account of herself; the whole limb was enormously swollen, and all the signs of a very aggravated typhus were present. She was immediately bled, and the part leeched and poulticed. Five days after this date, she began to complain of pain in the knee: when it was examined, a distinct fluctuation could be felt; free incisions were made at several parts; but as the inflammation abated in the arm, it increased in the leg, and all the disturbance of head and abdomen was renewed; she died on the ninth day ofter entering the hospital.

Remarks. The very formidable disease, which is illustrated by the two preceding cases, sometimes attacks the head, and is then not unfrequently fatal. It is of importance to observe that when the cellular tissue between the pericranium and the occipito-frontalis aponeurosis is the seat of the disease, and when it has gone on to suppuration, so as to detatch the integuments from the subjacent parts, these integuments are not so liable to fall into a state of sloughing as the integuments of the extremities, and of other parts; and why is this? Because the blood-vessels, namely, the branches of the frontal, temporal, and occipital arteries are so very

intimately connected with the skin of the head; whereas in the arm and leg, &c. the nutritious arteries of the skin are mostly small vessels which pass to it from the subjacent textures, and through the subcutaneous cellular substance; hence, when this web is destroyed by suppuration, the permeating arteries and veins are no doubt involved at the same time: in the case of the scalp it is otherwise; for its vessels directly appertain to it, and not to the pericranium and bone. It is of much consequence to ascertain whether the pus has not injured the pericranium; for when this membrane is destroyed, recovery is very rare; and when it is not we may very generally entertain better hopes. Even in the worst cases, the scalp seldom becomes lifeless or sloughs: and for the reason of the peculiar arrangement of the blood-vessels above-mentioned. M. Dupuytren has seen in his vast practice only two cases of actual gangrene of the scalp. —*Ibid.*

XIII.

TWO CASES OF HERNIA, IN WHICH THE OPERATION WAS PERFORMED, ALTHOUGH THERE WERE NO EXTERNAL SWELLINGS.

A MAN, aged 40, had an inguinal rupture on each side; the one of 12 years, the other of three years standing. After a violent effort, the former, or that on the left side became suddenly enlarged and very painful: it was after some time reduced, but the symptoms of strangulation continued, and on the 5th day he was carried to the Hôtel Dieu. The abdomen was very tender, and he suffered much from hiccup, fæcal vomiting, and pains of the bowels; there was no outward appearance of any herniary tumour; the abdominal ring when examined, were found more open than usual; there was a fulness in the right groin on the following day, and when the part was pressed, it was very painful. Dupuytren cut down cautiously to ascertain the state of things; he opened a small smooth-lined sac, from which a good deal of serum issued; but there was no trace of gut, or of omentum: when the finger was passed up into the abdomen, several adhesions could be distinctly felt. Dupuytren immediately operated upon the other side; the second incision opened a small sac, which contained a fatty mass, mistaken at first for omentum; but by making the patient cough, a layer was observed beneath it, and when this layer was divided, much bloody serum flowed out. Dupuytren, was now satisfied that the strangulation existed upon this side, in consequence of the difference of the serum from that which was noticed on the other side. In the sac a small portion of inflamed omentum was found, and on introducing the finger up the ring, a circular bridle could be felt; the sac was gently pulled outwards, and along with it a small portion of gut; a probe bistoury was cautiously introduced, and this bridle was divided upwards and outwards. The patient ultimately recovered.

Case 2. A man was brought to the Hôtel Dieu in an apparently dying state; he was hiccuping, vomiting, with cold extremities and tumid painful belly. It was with difficulty that he could tell that he had long suffered from a double rupture; but there was no outward sign of any swelling. The question was, whether the case was one of peritonitis, or of concealed hernia. Dupuytren ordered the patient to be bled, and to have repeated enemata given. Several copious alvine evacuations were procured, the vomiting ceased, but the hiccup continued. On the following day he was considerably easier and more collected, so as to be able to give some account of the progress of his malady. He had laboured under a rupture on each side for eleven years, they had never much incommoded him till the day before he entered the hospital; but suddenly after an exertion they became painful and irreducible for some time; both however were speedily returned by the taxis; yet most of the symptoms of strangulation continued. An incision was made over the right inguinal ring, and a smooth sac,

which was recognised as a herniary one, was laid open ; a grooved sound was passed upwards, and bloody serum then flowed out; the sac was drawn a little out, and its neck was found to be puckered, and drawn together like a cicatrix. It was divided, and the finger then might be easily carried inwards. The patient quickly recovered.

Remarks. In such cases, as the above, are there any signs by which the surgeon can determine, after the reduction of a hernia, whether strangulation continues or not within the abdomen? The abdominal ring should be carefully examined, to ascertain whether it be large and open, whether any pain is felt there, when the finger is firmly pressed upwards and outwards.—*Ibid.*

XIV.

PERICARDITIS.*

ALTHOUGH the utility of the stethoscope is now acknowledged, even by its enemies, yet we fear that many of its advocates are not sufficiently cautious in their diagnoses founded on auscultation. We are less confident now, after more than ten years' study of the stethoscope, than we were at the end of the first two years. Thus, for instance, we sometimes find it extremely difficult, we had almost said impossible, to distinguish nervous palpitation of the heart from hypertrophy of the same organ. Yet the tyro in auscultation will pronounce a decision in half a minute!

Case. A young boy, seven or eight years of age, presented himself to Dr. Thwaites, at the South-Eastern Dispensary, complaining of constant oppression at the chest and short cough, greatly increased on using any exertion, and causing suffocation. His health had gradually declined for three years past. He had had rheumatic fever, after which palpitation of the heart came on, with the embarrassment of respiration.

"Upon examination, the left side was considered somewhat more distended than the right; the action of the heart was distinctly visible at some distance; countenance anxious, complexion good, but lips approaching to a purple colour ; pulse 100, synchronous with the heart's action and regular; pulsation of the carotid arteries greater than natural, tongue clean, bowels rather costive, appetite good, sleeps tolerably well ; does not complain of any affection of his head, *bruit de soufflet* heard distinctly over the whole præcordial region, and on the corresponding position of the vertebræ posteriorly. *Fremissement* could be felt on the application of the hand to any part of the left side."

We need not detail the treatment by venesection, leeches, blisters, colchicum, &c. The Winter interrupted a regular observance of the symptoms; but when the little patient returned, in the succeeding Spring, the disease had evidently progressed. The left side was more bulged out—the blueness of lips increased—pulse 110—great anxiety—*bruit de soufflet* and *fremissement* augmented rather than diminished—a musical sound very distinctly heard, in three notes, commencing in a grave, and rising in the scale to a sharp thrilling tone. The case was sent to an eminent stethoscopist for opinion, and the following was delivered.

"The case is one of narrowing of the left auriculo-ventricular opening, with regurgitation into the left auricle. The signs are *bruit de soufflet* under the left mamma, which is produced by the passing of the blood through the narrowed opening ; and in the same situation very distinct *fremissement* is felt when the hand is pressed flat against the side. My reason for saying that there is regurgitation, is, that there is very distinct *bruit de soufflet* heard in the back on applying the stethoscope over the fourth dorsal vertebra, which I believe is produced by the passage backwards into the left auricle of some portion

*Dublin Journal, No. V. November, 1832.

of the blood first sent forwards into the ventricle. I should be inclined to say that there is not hypertrophy of the left ventricle, but I cannot be positive, and it is a matter of very minor importance in the case."

At this period the hydro-sulphuret of ammonia was prescribed, in doses of four drops thrice a day, gradually increased—and with astonishing benefit, even in a week.

"His countenance was quite altered, as the great anxiety which had been so strongly depicted on it was much lessened, and when spoken to he smiled, and said, that he 'liked to take the medicine, as it made him so much better.' His mother stated that he had not been taking the medicine long ere the oppresion was so much relieved, that he began to talk and play as he was wont to do before he got so bad; and that she came to have the medicine renewed, as he had not got any thing which gave him so much relief. The *frequency* of his pulse was not in the least relieved, but the *violence of the heart's action* was most perceptibly so. The *bruit de soufflet* and the *fremissement* both continued, but the musical *bruit* was gone, and could never be heard again. But at this period I left town rather suddenly, and the patient came under Dr. Benson's care. Without having learned from me the treatment I was pursuing, he, for the same reason which induced me, also prescribed the hydro-sulphuret of ammonia in doses of six drops, three times in the day."

But all would not do. The essential physical signs diminished not—dropsy took place, and death closed the scene.

Dissection. "Upon raising the sternum, the heart presented itself greatly enlarged in its general appearance, and occupying the whole of the left inferior and anterior part of the thorax: the left lung was much compressed and reduced in volume, and the inferior part of the right lung was considerably displaced. Upon cutting into their structure, they did not exhibit any appearance of disease.

The heart was next removed from its situation for the purpose of obtaining a more accurate examination of its state. The sac of the pericardium was not to be found, the membrane itself having formed so intimate an adhesion to the whole surface of the heart and to the roots of the great vessels, that it could only be separated from them by the practised scalpel of a demonstrator, the adhesion having all the appearance of being of very long standing, except at the posterior and superior part of the left ventricle, where it exhibited appearances of more recent inflammation. When we cut into the right ventricle it was found hypertrophied to once and a half its original thickness, of firm consistence and of a natural colour. Among the cells formed by the carneæ columnæ in the walls of the ventricle, were discovered two substances resembling small lumps of fatty substance firmly attached to the lining membrane, and when cut into presenting a small cavity containing a trace of creamy-looking fluid on its surface.* The cavity of the ventricle was dilated, and the auriculo-ventricular opening was of a size proportioned to the adjoining cavities. The auricle was also proportionally enlarged in every respect. The tricuspid valves, the pulmonary artery and its valves, and also the carneæ columnæ, were perfectly healthy.

The left ventricle was considerably thickened in substance, but in no other respect exhibiting an unhealthy appearance. The auriculo-ventricular opening of that side was not diminished in size, but, on the contrary, held a proportion to the rest of the heart. At the insertion of the chordæ tendiniæ into the floating edge of the nitral valve, there were firm depositions of a fibro-cartilaginous consistence, which gave to the edge of that membrane a thickened appearance and feel. The

* "To the best of my recollection these bodies have been noticed before by Dr. Townsend, but *where* I cannot recal to mind."

internal surface of the auricle was partially covered with a firm gelatinous-looking substance, which was internally connected with the lining membrane, so as to present a roughened appearance when scraped with the scalpel. The valves of the aorta were perfectly healthy. At its origin, and for a short distance, the aorta was considerably dilated, bearing an exact proportion to the left ventricle, but rather suddenly assuming its natural size after giving off the great superior arteries. The exact correspondence in the size of all the parts was very remarkable, as well as the absence of those organic changes which we all had so confidently anticipated."

The veil being removed, pericarditis was unequivocal. The difficulty of ascertaining this important disease has, many a time, occasioned painful reflections in our mind—for many a time have we been deceived. Several distinguished pathologists, among others, Andral and Louis, have confessed the difficulty. It is our intention to introduce an extended article on this important subject, in the next, or a succeeding number of this journal. The foregoing case meantime, will not be without its use to our readers.

XV.

CUTANEOUS ERUPTION IN CHOLERA.

IN a female who had just recovered from the worst symptoms of cholera, an eruption of lenticular papulæ, of a faint red colour, and surrounded with an areola was observed on the hands and arms. It was at first attributed to the irritation of sinapisms; but as it quickly appeared over all the body, this explanation could not stand; some of the papulæ presented minute pustules on their tops; and here and there they were so dense and small as to look like an erythematous rash. The same appearances were observed in two other cases; and in both of these they were contemporaneous with a decided amendment of the cholera symptoms. Is the eruption a critical one? M. Alibert repeatedly noticed it in many cases under his care. In one case the "measley inflammation extended to the mucous membranes of the mouth, pharynx, nose, and eyes.—*Journ. Complem. Sept.* 1832.

XVI.

ST. VITUS' DANCE: TREATMENT IN FRANCE.

A YOUNG girl had all the characteristic symptoms of this very curious disease; the twitching of the muscles of the arms, hands, legs, and face, the twisting of the mouth, the constant and involuntary shaking of the head, the unsteadiness of the gait, and of any attempt to lay hold of things, and the embarrassment of the speech, sufficiently announced the disease. The symptoms always ceased during sleep; they had existed for three weeks before Dr. Manners was consulted.

She had been twice blistered, and stimulating frictions had been used. The Doctor ordered 15 leeches along the spine; and the spine to be rubbed with a liniment made of the extracts of belladonna, hyosciamus, and opium, dissolved in water. Next day the patient took a tepid-affusion bath; a footbath to be used every night, and the feet to be afterwards enveloped in hot poultices sprinkled with mustard!!—besides these she was to have given her every evening, a "demi-lavement" made of valerian tea; and at bed time she took a spoonful of the following mixture:—

Distilled water of lettuce, ℥iv.
Distilled water of orange flowers, ℥ii.
Concent. water of cherry laurel, gtt. x.
Acetate of morphia, gr. ¼.

The quantity of the cherry-laurel water to be gradually increased. The ordinary drink of the patient to consist of orange-leaf tea. A shower-bath was employed every morning, then this was changed for a douche bath, and the temperature of the water was gradually lowered. The stream was directed on the head and nape of the neck, while the face and chest were protected by a veil!! On leaving the bath the patient was well rubbed with a warm

towel, and drank a cup of hot elder tea! In 10 days we are told she was vastly better; in other 20 days she was pronounced to be cured. The patient had taken 22 baths.—*Journ. Complem. Sept.* 1832.

XVII.

CANCER OF THE STOMACH FOUND ON DISSECTION—NO SYMPTOMS DURING LIFE.

A MAN, aged 51, entered La Charité on the 5th July, 1832; he was a tailor by trade, and had therefore much sedentary employment. In 1826 he had a very severe attack of jaundice, which lasted for two months, and was treated by emollient and diuretic medicines alone!! [When will many of our French brethren be taught to adopt more active therapeutics? —Ed.] The jaundice returned each year since, but with less severity. Eight months ago, his belly began to swell, and he felt uneasiness in the right hypochondrium; the swelling gradually increased, and when he entered the hospital, the following is the report of his case. The abdomen is enormously distended; the edge of the liver extends down as far as the umbilicus, and may be distinctly felt in the left hypochondrium; the abdominal parietes are hard and tense, and irregularly puffed out here, and depressed there; they are painful on pressure; the limbs are œdematous, the complexion of a pale yellow cast, and, in short, (says our author!) all the pathognomonic symptoms of a cancerous tumour of the liver are present. The patient's strength is exhausted by a constant slow fever, and a diarrhœa. He died in a few days.

Dissection. On opening the abdomen the diaphragm was found to be pushed upwards as high as the third ribs; the sharp edge of the liver descended nearly to the christa ilii, and quite concealed the stomach and a large portion of the intestines. The pyloric end of the stomach appeared to be hypertrophied: when cut through, a cancerous fungus was found on the mucous coat of it: although the surface of the mass projected four lines at least beyond the rest of the stomach, the pylorus did not seem to have been at all obstructed. We now can understand how this formidable disease may have existed without causing any symptoms during the life of the patient; for the tumour in the epigastrium, which is regarded as the pathognomonic sign of cancer of the stomach, was, in the present case, hid by the enlarged liver; and as the pylorus was free and open, the food was not rejected by vomiting, as is almost always the case. To revert for a moment to the state of the liver—its size was truly prodigious, and it weighed 12½ pounds, whereas the average weight of a healthy liver is, according to Sœmmering, between two and five pounds; when cut into, it presented the appearance which has been called "cancer in disseminated masses;" there was a vast number of tubercles, varying in size from that of a pin's head to that of the point of a finger, and either isolated, or connected one with the other; so thickly studded was the liver with them, that not a fifth part of it was of the ordinary parenchymatous texture; when cut into, they were observed to consist of a lardaceous whitish substance, and of a central yellowish substance, which was streaked with red lines; in some places they were hard, in other places soft and encephaloid. Around these masses, the parenchyma of the liver appeared injected, of a yellowish colour, and of a broken-down texture. No cancerous debris was found in the vena cava, nor in the hepatic veins!!—*Ibid.*

Few of our English readers will admit that the preceding is a case of "cancer of the liver." The very description of the author himself must satisfy them of the contrary. We quite regret that the French, who have deserved so well of the medical profession by their pathological researches, should be the least accurate of all authors in their language. It is a question if real scirrhous disease has ever

been found in the liver; and if we abide by the definition of scirrhus, as it occurs in the breast and uterus, we shall probably be forced to acknowledge, that this morbid change of structure is seldom or never seen in parenchymatous viscera. To satisfy our readers still more of the vagueness and inaccuracy of the French reports, we shall translate the following short passage. The author vauntingly enquires, "in such cases as the above, is a physician to exhibit strong purges and large doses of calomel, as they do in England and in India, where chronic hepatitis, and, consequently, cancer of the liver, are often caused by the abuse of purgative medicines"!! This requires no comment.—REV.

XVIII.

INFLAMMATION OF THE SPERMATIC CORD APT TO BE MISTAKEN FOR INGUINAL HERNIA.

THE following remarks, from the Dictionnaire abrégé des Sciences Médicales, are important.

"We have repeatedly witnessed cases, in which the surgeon has been puzzled to form a correct diagnosis. When a painful swelling in the groin follows a fall, or any violent effort, rupture is immediately supposed to have taken place; but perhaps quite another accident may have occurred. The following is a case in point.

A man fell from a considerable height, and on recovering himself, he felt severe pain in the inguinal canal, and the pain extended to the loins; vomiting came on, and a feeling of general distress and anxiety; the abdomen was drawn in, and was very painful on pressure; the pulse was small and wiry; and, upon examining the groin, an oblong, hard, and painful tumour extended from the inguinal canal towards the testicle: it might have been mistaken for hernia, but it was observed that it was identified with, and formed, as it were, a part of, the spermatic cord, and, moreover, that it did not terminate inferiorly, as a rupture does; that the pain followed exactly the course of the cord, and was of that sickening character which is so characteristic of any injury of the seminal apparatus. These particulars removed all doubt from the mind; the patient was bled, leeched and poulticed, and was speedily well."—*Annal. de Med. Physiol. June*, 1832.

XIX.

SINGULAR CASE OF RECOVERY OF THE MOTIONS OF A STIFF KNEE-JOINT DURING FEVER.

AN old artillery-man was much exposed to the weather at the siege of Toulon, in the second year of the French republic; the consequence was, that he became a martyr to severe and long-protracted rheumatism. At the expiry of three years, an abscess formed in the left knee; the discharge was sanious, and mortification was apprehended. Amputation was advised, but not acceded to. In course of time the wound cicatrized, but the muscles of the limb were contracted, and the tendons had become so stiff and hard, that the knee was quite immoveably bent at a right angle. The flesh of the thigh and leg gradually wasted away, and the patient was obliged to wear a wooden leg. In this state he continued for 32 years, but now he walks about almost as well as ever he did, without crutch or staff. The following is the history of this curious change.

In the month of February of the present year he caught a severe catarrh, which was accompanied with high fever; powerful sudorifics were given, and a very free perspiration was thereby produced. As symptoms of typhus came on, he was well vomited and purged. During the efforts of vomiting, he felt severe pains in all the joints, and a sensation of cracking in his bones, to use his own words. In a day or two after, he lost the use of his right arm, and considerable gastric distress came on; but it was quickly relieved by enemata, which brought away immense

quantities of vitiated fæces; the perspiration and expectoration returned, and the pains of the bones abated. On the 12th day, the knee-joint was found to be more pliant, and more extensible than it had been hitherto; the limb was well rubbed, and, in the course of three or four days, the joint of the left knee was as supple as that of the right, so that the patient could move it about, and rest upon it in walking. It is still much atrophied, but, in other respects, is as sound as the other.—*Ibid.*

However extraordinary the preceding case may seem to many of our readers, we cannot doubt its authenticity; indeed, in our own practice, there occurred, about a twelve month ago, a very singular instance of a female recovering the use of the left lower extremity, after a lapse of 12 years' motionless inaction of the member. During the delirium of a fever, she rose of herself from bed, and walked a few paces about the bedroom, and from that period to the present, she has enjoyed the perfect use of the limb. —ED.

XX.

ORGANIC DISEASE OF STOMACH, WITHOUT SYMPTOMS.

A MAN, aged 68, was admitted into Sir P. Dun's Hospital, 9th July 1830. He had slept in a damp bed four weeks previously, from which had resulted catarrh, dyspnœa, anasarca, for which he came to the hospital. His appetite was tolerably good, and he did not complain of any pain in the stomach, or nausea. He had slight diarrhœa. He died, after seventeen days' residence in hospital, of the diseases above mentioned, and without making any complaint respecting his stomach.

"On dissection, the stomach externally presented the appearance of the hour-glass contraction; on opening into its cavity, this contraction was found to be connected with a tumour caused by a morbid growth from the mucous membrane. This tumour was of a medullary structure, and exhibited, at one portion of its surface, a bloody appearance. In size it equalled a large mushroom, its edges overhanging the base, which consequently had somewhat the appearance of a peduncle. It was situated in the greater curvature, about midway between the cardiac and pyloric orifices. The peritoneal coat over the tumour was adherent to the mucous membrane, and presented a corrugated appearance. There were two small tumours of similar structure in the neighbourhood of the large one, and like it, attached to, or growing from the mucous membrane by a peduncle; they differed, however, from the larger, in being connected with the mucous membrane alone, and in not having induced any morbid adhesions between that membrane and the other tunics of the stomach.

These tumours appeared to have been the result of a morbid growth totally unconnected with inflammation, and therefore occasioned no symptom indicating their presence. Had the man lived much longer, there can be scarcely any doubt that their structure would have undergone a remarkable alteration, and have become more vascular, so as to convert them into bleeding fungous masses. This change had already partially commenced on the surface of the large tumour."*

We have seen some cases where ulceration (which must have been accompanied by inflammation) occurred in the stomach, and gave no notice of its existence, till perforation of the coats and extravasation of the contents of the organ.—ED.

XXI.

A SKETCH OF BROUSSAIS' DOCTRINES, DRAWN UP BY HIMSELF.

IT was in the year 1804 that I began to be sensible of the imperfect and erroneous notions of disease, which were then prevalent. I laboured diligently for five years, and in the year 1809, appeared the "History of the Chronic Phlegmasiæ." At that time I was at a distance from Paris, and engaged in the army hospitals. The work was one of an entirely experimental nature, and obtained an honourable mention from those who were able to judge of its merits. At

* Dr. Graves, Dublin Journ. No. V.

the time at which it was published, the attention of physicians had not been at all directed to the subject of chronic inflammations, especially of those which have their seat in the membranes lining the visceral cavities. Pinel does not even mention them in his Nosographie. In their place we find the unmeaning terms "organic diseases, or defects, and atrophy or decay without any appreciable cause." Corvisart too was ignorant of the true nature of internal morbid changes. If in a case, which was neither consumption, nor disease of the heart, nor any of those inward swellings denominated at that time organic alterations, he observed the progressive decay of a patient affected with a chronic malady, he attributed it to a state of mere feebleness and cachexy (malus habitus;) expressions vague and utterly unmeaning, or rather we should say extremely mischievous, as leading to erroneous indications of treatment. The History of the Chronic Phlegmasiæ corrected these faults, and shewed that inflammation is the chief agent in the production of those diseased growths and changes which we meet with in the centre of the viscera, and also in the texture of their lining membranes, and that these are the real causes of that incurable exhaustion and decay, which had hitherto been always referred only to debility of the solids, and depravation of the fluids of the body. Moreover it proved that such debility and such depravation are often curable; it pointed out the signs and epochs of their curability, and also the means for their cure. Henceforth the term "organic disease" had a definite and appreciable meaning: medical men were satisfied in attempting to soothe, and not vainly to eradicate such; and their attention was chiefly directed to prevent its occurrence, or progress, as soon as they dicovered the germ in those obstinate and intractable irritations which equally invade all structures and tissues. The treatment of such cases was no longer empirical, but rational and consistent. The class of fevers was at this period as imperfectly understood, as those of cachexies and of organic diseases. Continued fevers were divided into two sorts; the one attributable to the inflammation of a particular organ; the other being viewed as essential, or independent of any local affection: but such a phrase as "essential" means nothing; for we are still puzzled to say, to what cause are we to ascribe an essential fever; in this state of ignorance, the physicians tried to characterise such a case either by the predominating sypmtoms, or by vague and idle conjectures and speculations; if the secretion of the bile was much increased, the fever was termed "bilious;" if that of the mucous surface in any part, a "mucous or pituitous" fever; when the temperature of the body rose high, then it was a "burning" fever; and when it fell much, it was a "cold, or algid" fever; again fevers were called asthenic, putrid, nervous, and ataxic, as they happened to be attended with exhaustion, with putrescency, and with symptoms of disturbance of the nervous and muscular symptoms; there were also hospital, camp, and prison fevers: and fever with petechial, miliary, or other eruptions. In some cases, the character and name were drawn, it would seem, from an idea that a baneful agent was working its effects upon the patient, and defeating the physician's efforts; and hence such fevers were styled "malignant." Does this language convey any knowledge? or does it not rather prove the confusion and chaos in which the subject was involved, and mislead the practitioner not only in his attempts to reason on the nature of the diseases, but also in his efforts to cure them? Hence one set of men was drawing the indications of their treatment from the state of the biliary, or nervous secretions; while another set was talking only of debility, putridity, or malignancy. Pinel was the first to perceive, and to aim at correcting these errors of the schools. He tried to localise some fevers, as for example the bilious fevers, under the name of meningo-gastric, and the pituitous, or mucous fevers, under that of adeno-meningeal. But he has not told us in his Nosographie, of what nature is the gastric disorder, nor yet of the cause of the increased quantities of mucous, which is characteristic of the second class; moreover he fell into the egregious contradiction of attributing these two sorts of fevers, sometimes to

irritation, and sometimes to a primitive change of the biliary and mucous secretions, at the very time that he designated them, essential fevers. Then he vaguely ascribed all his ataxic fevers to a disorder of the nervous system, and most confusedly classed together all fevers in which the vital energies are depressed, and termed them adynamic. Not only was there no localisation of the disease, but the indications of treatment in such a system were most injurious: for what is the cause of the loss of power, or debility in fevers, but simply inflammation of some of the viscera? Such was the state of the science, when I published, in 1816, the first edition of my Examination of Medical Doctrines. In it I pointed out the absurdity of expecting to advance the science of medicine, merely by forming groupes of symptoms into particular diseases, which is not less absurd than to say that an assemblage of ten, or twelve symptoms is the virtual cause of those morbid changes which we observe after death. The symptoms in short are nothing but the external and obvious evidences of the malady which is involving the organs in abnormal changes. I proposed to view fevers, as we do inflammations, to localise them in certain parts, or organs, and I attempted to show that the morbid changes of structure which are going on, are the real existing causes of fevers, and not, as had hitherto been supposed, the effects of them. At the same time, I strongly inculcated the propriety of extreme caution in our reasoning on those cases, where the "mobile" of the fever is not apparent. These new doctrines encountered much opposition, but they gradually gained ground, and became more and more adopted, as will be seen by the following events. In 1812, was commenced the large "Dictionnaire des Sciences Medicales," the articles of which were deeply imbued with the doctrines of Pinel, till the year 1817, from which time some sprinkling of the physiological reasonings began to appear. Before the work was completed, the "Dictionnaire Abrégé" was brought out, and in it the physiological medium was preponderant. In the large Dictionary, fevers are enumerated as "essential, or idiopathic;" in the abridged one, we read of none but such as are symtomatic. In both, the doctrines which I had unfolded in my History of the Phlegmasiæ, were insisted upon, in discoursing upon all the diseases which are included in the catalogue of inflammations. For the last sixteen years, almost all medical researches have taken their rise from, and have been based upon the physiological doctrines. The subject of inflammation is studied, discussed, and specialized, much more than it was formerly; and where inflammation cannot be proved to exist, irritation is supposed to be present, and is now deemed to be the agent in producing a host of organic diseases, which were before merely enumerated in detail. The relations between the changes and vitiations of the fluids, and the different sorts and degrees of inflammatory and irritative actions, are attentively and most zealously examined. In 1821, appeared the second edition of my "Examen des Doctrines" which was published originally in one volume, then in two, and at length in the fourth edition in four volumes. Soon after this period I began my system of "Physiology applied to pathology;" it was brought out in numbers for four successive years. It is devoted to the examination of the etiology of diseases, and to the tracing of those functional aberrations from the healthy to the diseased state, which are caused by the influence of the external agencies continually operating on the living body. This work, as well as the preceding ones, has received the honour of translation into several languages. In addition to these, the "Annales de la Médécine Physiologique" have appeared in monthly numbers for the last eleven years, and my Treaties on Irritation and Madness in 1825, in which last work the cause of the "positive philosophy" was pleaded with a boldness and a freedom, which might have been dangerous to the author. Lastly the cholera morbus, which has so puzzled and bewildered all medical enquiries, must be viewed through the enlightening medium of correct physiology, before we can hope to arrive at a successful therapeutic. We have explained our views upon this subject in an essay which was lately published.

According to the physiological school of medicine, no disease is ever primarily and essentially general, that is, affecting equally and at once every part of the system. Disease begins always in one individual organ, even when the disease depends upon a cause which induces an alteration in the humours, or fluids of the body, such as the exciting cause of small pox, typhus, &c. &c. The great aim of the practitioner ought therefore to be, to discover the primitive seat of the disorder, as he may thereby often be enabled to check, and even strangle the nascent evil. By following this mode of examination, French authors have surprisingly reduced the catalogue of malignant fevers, which are now seldom met with, except when medical assistance has been called too late, or has not been accepted. Look at the reports of the different hospitals, and mark how seldom we find the term of general or essential fevers, and how prevailing is the belief that all diseases ought to be regarded primarily as local affections. Even when the physician does not see the case, until the disturbance has been propagated to, and has involved all the functions of the economy, he can do much to relieve his patient by following the physiological method, and directing his attention to those organs which have chiefly suffered. Hence we perceive the absurdity of recommending in fevers only one set of remedies to the exclusion of all others ; the remedy must be adapted to the condition and susceptibility of the affected organs. The operation of all agents which influence and modify the state of the system, ought to be our especial study, and the effects of these upon the moving and sentient powers, our only guide in judging of the results. Thus we admit no à priôri reasonings and conclusions, into our school ; neither any preconceived opinions, nor any implicit following the " verba ullius magistri." Let it not be supposed that our doctrine is that the abnormal changes and modifications, which we have alluded to, are the only immediate cause of all diseases ; we know that these causes may exist in the humours, in certain poisons, in the vicissitudes of heat and cold, in the imponderable agents, and probably also in influences, which cannot be appropriated by our senses, and we are not opposed to any researches calculated to explain or illustrate the action of these causes, and to discover antidotes to them, but we simply maintain that a disease can be recognised only by the aberration from the normal condition of the moving and sentient powers of the body, and that the study of this aberration, sometimes as excessive, at other times as impaired, or irregular action, can alone furnish to the medical man the correct method of ascertaining whether his remedies are beneficial, or injurious. Formerly a patient, who was getting worse, instead of better, while under medical treatment, was often told " Have patience, it is the medicine which is acting upon you ;" a gouty man was consoled by hearing that his physician must not relieve him, for his sufferings were in sooth necessary for the object which nature had in view ; and even in many acute diseases, the patient was congratulated on any increase of fever and restlessness, upon the ground that a salutary crisis of his malady was at hand! How often was the raging thirst of fever met with hot drinks, which only add fuel to the distress! We have a memorable instance of this folly in the late treatment of the cholera ; but now, thank God, the poor sufferers are permitted to have as much cold water and ice, as they desire. There are indeed cases, in which the patient must submit to the annoying effects of certain medicines : but such cases are infinitely more rare than was formerly believed ; but yet we must acknowledge that much injury is often done by their employment ; thus, in dyspepsia, how frequently do we see stimulants and tonics ordered, although it is obvious that they must either increase the distress, or only change its character. In short, the art of sparing suffering and pain is not so ancient as many suppose, and has been fostered chiefly under the happy influence of the physiological method ; for the very essence of this method is to bring relief to suffering organs, and not to regard diseases merely as assemblages of certain symptoms, which must either co-exist, or succeed to each other ; by this foolish practice, we neglect the

very increase of those evils which are successively added to the inseparable distresses of the malady. Is it not a common remark of a disciple of the old school, when summoned to a patient—"we must wait; the disease has not yet declared itself?" But such dangerous absurdities are gradually passing away; the mind of the physiological physician is occupied with facts and realities, and not with preconceived and à priôri reasonings.

In enquiring into the nature of a disease, there are but four objects of research—1, The organ primarily affected. 2, The operating cause by which it has been affected. 3, The influence of this organ upon the other organs of the body; and, 4, The agents by which the disorder may be removed. There is nothing of idle speculation here—no empty hypothesis on the intimate or proximate nature of diseases, for these are beyond our intelligence; we do not pretend to give an explanation of the phenomena of life; our only aim is to take notice of whatever disturbs its moving and sentient powers, or disorders the texture of the solids and the composition of the fluids, and to compare it with whatever has the effect of restoring the one and the other to a state of normal rectitude. How, then, can any one be so unjust as to denominate the physiological method, a system of à priôri reasoning and practice, or as a monomania, or a partial, contracted, and exclusive doctrine, which attends only to one set of measures, and disdainfully rejects every other?—*Annal. de Med. Physiol. June*, 1832.

In order to unfold the views of this distinguished reformer of medical science, we are induced to give a short abstract of the essay which he read in October, before the Academy of Sciences of the Institute at Paris, as a candidate for the chair vacant by the death of M. Portal. It is entitled "Memoir on the Philosophy of Medicine."

He remarks at the outset, that, at different epochs of history, very different opinions have been held on the meaning of the phrase "medical philosophy." Hippocrates deemed it to consist in closely observing the march of diseases, when they are little modified by the interference of art. Galen made it to reside in the study of the humours; Paracelsus and his astrological followers, in that of the stars; Vanhelmont and Stahl brought it down again to earth, and fixed it in the centre of every organ, designating it the "archæus" and the "animus" which presides over the body. At length, the immortal Haller shewed that it was more philosophical to search for its abode in the irritability of the tissues, and to ascribe health and disease to certain states of these, rather than to subtile and irritable nonentities. But soon a new set of theorists arose, who maintained that all the phenomena of life, both in health and disease, are referable to the action of the nerves; but, unfortunately, the nervous functions are little known, and in course of time a being or essence, semi-intellectual and semi-material, partaking somewhat, too, of the nature of the "archæus" of Vanhelmont, and of the "animus" of Stahl, was admitted into all medical reasonings, as the presiding influence of the animal economy. This new philosophy was simple, to all appearance; but it was speedily split, and two rival systems sprung from the division. In the one, which was upheld by Barther and the Montpellier school, a vital force or energy was made to reign over all the tissues and humours of the body; but its seat was not limited to the nerves, as was the case with its parent doctrine; according to this philosophy, there were as many vital forces as there were vital phenomena: in the other, the elements were "force" and "debility," terms which are synonymous with an "excess and deficiency of" excitability, or with "accumulated and exhausted irritability." Such was the Brownonian doctrine, a doctrine which led to a most pernicious system of therapeutics, for remedies were now employed with

such whimsical and irrational intentions, such as to increase or to diminish excitement, to affect the irritability, as it chanced to be redundant or defective, just as, before, they were addressed to the archæi and animi, and with equal disregard to the effects which they produced on individual organs. It was Sydenham who first proposed the classifying of diseases; Sauvages seized the happy idea, and, comparing diseases (which are only modified conditions of a living body) to plants (which are living bodies themselves,) gave birth to nosology! Nothing was talked of but classes, orders, genera, and species, as in botany; his adage was, "symptomata se habent ad morbos, ut folia, et fulcra ad plantas," an adage whose absurdity must now be apparent to every one, but whose influence, strange to say, has not yet entirely passed away. It is surprising that no one could see the folly of comparing pain and heat to a leaf and a branch, and a spasm to a flower!! It is useless to advert any longer to these idle abstractions and vagaries of the brain, or to expose more of the ridiculous conceptions which other authors have, at different times, propounded; for surely medical "ontology" is for ever abolished. It was formerly the great problem among physicians—"a disease being given, to find its remedy;" but latterly the problem had been somewhat changed, or rather a new problem was in vogue—"a disease being given to find its place in a nosological catalogue." How humiliating to think that the minds of men were so diverted from the true path of enquiry, and that they allowed their judgments to be blinded and misled by the ridiculous nothingness of empty, sounding words; but let us not boast, but rather ponder on these errors, for the improvement of ourselves.

Our next theme is, to strive to find out some more rational system of medical philosophy. The eclectic school have put forth their claims; they tell us "there is something good and true in all the preceding doctrines—let us only reject the bad and retain the good." Such is the method of those who profess not to be "exclusives." But we need not waste time in refuting the reasonings of the eclectics, a name which ought to be reserved for close observers and able experimenters, whose time and talents are engaged in verifying facts which have been long admitted, and in seeking after others which are novel and interesting. How is it possible for an eclectic to arrive at any logical correctness, if, surrounded with so many statements and data, brought forward by one party and refuted by another, and encountering so many opinions and hypotheses utterly conflictant with each other? What could a "neophyte" do amid such a labyrinth of perplexities? Eclectics are not known in the true sciences, where the simplicity and the small number of facts appertaining to any theorem, render its demonstration easy and intelligible. The great error of most preceding writers has been, in seeking after the primary and proximate causes of disease; and, even in the present day, we hear men often regret the misfortune of not being able to attain to the knowledge of the essential nature of diseases; they are unwilling to admit any evidences or elements of certainty and truth in science, but such as are proved by the testimony of the senses, forgetting that there is another kind of evidences obtained, by inductive reasonings, from facts which have been well established; and such evidences are not less real than a shadow, a noise, a reflection, or evidences of a material object existing somewhere; they are admitted into mathematics, chemistry, mechanics, agriculture, and exercise a mighty influence in all discourses upon these sciences.

None can be ignorant of the stupendous results derived, through this means, by Cuvier in fossil geology. It is, indeed, difficult to obtain this sort of evidence in medical researches, but the cause of this is, that the facts, or rather data, are so very numerous and complex; but we must not be discouraged, for it is only by the

medium of such evidence, that we can hope to arrive at a knowledg of the causes of disease—to a correct nosology, and a rational and beneficial system of therapeutics. This class of evidences is weak and deficient at present, but we must labour zealously in enriching its domain, for it constitutes the most important aim of medicine; yet such is the medical philosophy of our days, that rigid induction has been less esteemed than mere description; the former is falsely designated as an hypothesis, theory, a system à priòri, and an empty conjecture. If a treatise is written on any disease, the only aim and end of the author are, after describing its course and progress, and detailing the pathological changes in fatal cases, to establish that the disease could not be at all different from what it really was, or that the symptoms were merely the effects of the morbid states and actions which were going on in different viscera, and no attention is paid to appreciate the operation of the exciting cause, and of the agencies which modify the actual state of disease, and scarce any thing is thought of but the hunting after nostrums and specifics. The habit of expecting a necessary succession of symptoms during a definite period, in most maladies, and especially in those which have been denominated putrid and malignant fevers, typhus gravior, &c. is most pernicious and baneful. We have laboured to expose the dangers of such a method, and we deem it one of the noblest endeavours of a physician to shew, that the greater part of these affections may be arrested at the different epochs of their development, by means of a scientific application of those agents which modify and control the functions of our organs. In conclusion, the philosophy of medicine which we have proposed, consists in a more rigorous observation of the effects of all the external agents on the human frame, and of the influence of the different organs of the body on each other.—*Archiv. Gen. Oct.* 1832.

We have already said that the preceding is an analytical review of the essay which Broussais read before the Institute of France. It is customary, that the candidates for the honor of being enrolled members of that most distinguished association should present memoirs, in which they give an abstract of their scientific and professional labours and researches, specify the titles and honours which they have hitherto received, and assert their claims to the object of their ambition. The four candidates were MM. Broussais, Esquirol, Breschet, and Double. The latter read an essay on the "Influence of the Nervous System in the production and Development of Diseases." The commission appointed to enquire into their respective merits, selected MM. Double, Broussais, and Breschet to be presented to the Academy of Sciences; and the votes of 50 academicians were afterwards ascertained to have been awarded as follows; on the first scrutiny, 23 for M. Double—16 for Breschet—10 for Broussais, and one for Esquirol; on the second, 24 for Double—23 for Breschet, and 4 for Broussais; and, on the third, 36 for Double, and 24 for Breschet. M. Double was, therefore declared the successful candidate.—ED.

XXII.

DEATH OF M. PORTAL.

THIS distinguished veteran died on the 23d of July last, at the good old age of 91, as rich in honours as in years. He was the Nestor of the French physicians; first physician to Louis XVIII. and Charles X., perpetual president of the Academy of Medicine, member of the Academy of Sciences, and of many other celebrated societies. His "History of anatomy and Surgery" has long been esteemed and admired; but his greatest work was the "System of Medical Anatomy." which laid the foundation of, and rendered popular, the pursuit of sound pathology in France.

XXIII.

ON WATER, APPLIED EXTERNALLY, AS A REMEDIAL AGENT.

IN our last Number, we gave an exten-

ded analysis of a very valuable paper on the above subject; we now continue the subject, and shall direct our readers to the fittest method of employing the remedy. In most cases, especially those in which the nervous system is much affected, as in the 3d, 4th, and 5th series, it is of importance that the bath should be in the bed-room, or in an immediately adjoining apartment, as the patient ought to go to bed immediately afterwards; in other cases, as in those of the 1st, 2d, and 6th series, it is better that it be at some distance, as the exercise of going to and coming from the bath is beneficial. The heat of the bath ought to be about 86° or thereabouts; the affusions ought to be made with the water of the bath at first, and then gradually with cooler water. As a general rule, it may be said that the temperature of the bath should be about 86° and the water for effusion from 6° to 10° lower. With regard to the duration of the bathing, this must vary according to the nature of the malady. In the cases of the 3d and 5th series, those, namely, characterized by lethargy and nervous stupor, from five to eight minutes is long enough; but in cases of the 1st, 2d, 4th, and 6th series, viz. those of cerebral fatigue and exhaustion, fatigue of the brain and of the organs of sense, nervous fevers, and neuroses of the sympathetic nerve, 25 to 30 minutes may be mentioned as a proper time, the effusions being employed during the six or eight last minutes. Now the number and frequency of the baths is also a point of importance to determine: when the patient is afflicted with stupor, nervous fever, or lethargy (as in the 3d, 4th, and 5th series,) it is seldom that a single bath in the 24 hours is sufficient; generally two baths at least are necessary; sometimes 3, 4, or even 6 and 8, according to M. Recamier, must be taken in one day, before the patient experiences decided benefit, whereas, in instances of the 2d, and 6th series, one bath daily is amply sufficient. A third interesting question of enquiry is, the proper hour of the day for the use of the bath. In cases of the 1st and 6th series, the most fit time is shortly before the evening repast, or not long before going to bed; the appetite, in the one case, is often much invigorated, and in the other, sleep may probably be soon induced; it may be proper that the patient should take a light supper after he is in bed.—*Révue Médicale, Sept.* 1832.

Remark. We have repeatedly witnessed the most agreeable effects from the employment of bathing, in a somewhat similar form to that recommended by the French physicians, in many cases of cerebral exhaustion, of melancholy, of general debility uncomplicated with organic disease, &c.; we suggest the cotemporaneous effects of effervescing draughts, such as the sedlitz powders, to the more robust, and the citrate of ammonia to the more feeble and nervous. The wonderfully soothing effects of a saline purgative are not very generally known, and may probably be rather despised, by those who have never experienced their effects on themselves, or witnessed them in others. Suffice it to say, that Lord Byron mentions it of himself, that when a fit of the "blue devils" was impending over him, a spoonful or two of Epsom salts always restored his spirits more quickly than the finest wines, and we know a writer, of distinguished talent, who confirms the truth of the remark by his own practice.—ED.

XXIV.

CASE OF ANEURISM OF THE LEFT GLUTEAL ARTERY.

MAD. S. aged 66, fell on her left buttock in the month of December, 1821. She was considerably hurt, and a small, hard, and painful tumour very suddenly shewed itself, about the centre of the injured part. In February, 1825, she again fell on the same buttock. and was much bruised; at that time, the swelling was of the size of a hen's egg; when examined, it was found to beat synchronously with the heart. Her medical attendant was not aware of the nature of her malady. The

pains which shot from the hip to the foot were now so severe, as to rob her of sleep, and so much had the swelling increased in a few months, that in the following November it measured 21 inches in circumference; the pulsations could be felt over all its surface. The state of the patient forbad any operation. She died in the February of the following year.

Autopsy. The left common iliac artery presented here and there spots of ossification; the enormous aneurismal sac when opened measured upwards of 20 inches round, and contained a large quantity of broken down blood; the substance of the gluteal muscles had been almost quite absorbed; the gluteal artery was large enough to admit the forefinger; and its parietes appeared healthy to within an inch of the sac.—*Ibid.*

XXV.

Ulceration of the Stomach.

Dr. Graves visited an unmarried lady, aged 25 years, who had suffered much from pain in the stomach, nausea, vomiting, acidity, and indigestion. These symptoms first appeared after a severe shock and fright. She had sometimes intervals of five or six weeks at a time, free from complaint, but these intervals had lately become much shorter. She was pale and emaciated. She was free from pain for some months after Dr. Graves commenced attendance, then pain came on, attended often with a discharge of coloured fluid from the stomach, sometimes resembling coffee-grounds. This state continued for some months, when the pain and tenderness disappeared, though vomiting remained, after every kind of food. She was at length worn out. On dissection, an ulcer was found in the neighbourhood of the pylorus, but completely cicatrized. It had penetrated the mucous and muscular coats, but had been arrested by the peritoneal covering, there was no maturation or scirrhus in the neighbourhood. The site of the cicatrix was distended into a kind of pouch, which received a portion of the contents of the stomach, and thus formed a kind of valve which prevented the egress of chyme through the pyloric orifice, nutriment was thus cut off from the system, and death was the result. *Dublin Journal*, No. V.

P. S. Our esteemed Contemporary of the Sister Isle, has honoured us by the extraction of several articles, for which we feel obliged. But we trust that it is no unreasonable request that the source may be *correctly* given. "*Johnston's* Journal" is not a very clear designation for the "Medico-Chirurgical Review, edited by *Dr. Johnson.*" The term is merely from carelessness, we know, and we are sure the hint will not give offence. We borrow freely from the excellent Dublin Journal, and shall always feel gratified when any of our articles are deemed worthy of transplantation into such a fertile soil.—*Ed.*

XXVI.

On the secret Causes of Epidemic Diseases. By Professor Baron Alibert.

In a preceding article, the learned author had laboured to show that the causes of Epidemics were altogether unconnected with mere localities; they are in no manner dependent upon the nature of the climate and may be developed in temperate, as well as in extremely cold and hot regions. It is a mistake to regard the Torrid Zone as the only cradle of pestilential diseases; we do not indeed deny that the germs of some diseases may exist in the country where these prevail, and that such diseases are very properly designated "endemic;" thus for example of cold and damp districts, intersected with woods and marshes, scurvy and all its offspring of evils, appear to be the natural denizens; while those which are dry, exposed and well watered, are usually much invaded with inflammatory disorders. We may go still farther, and assert that some diseases appear to be so affixed to certain countries, that they are seldom or ever found in others, unless transported by patients

themselves; and then, they usually degenerate and are considerably modified from their original type. But the essential characters of an epidemic miasm, viz. the suddenness, and extent, and sweeping fatality of its ravages, are sufficient to distinguish a pestilence from a disease of mere climate, or in other words from an endemic. Hippocrates, in his Treatise on Air, Waters, and Localities, acknowledges that such can never generate a pestilential disease; they may however modify its character, and impart a colouring to its features. What strongly argues the distinctive nature of an epidemic, is that it is not limited to any one, or two countries or districts, but sweeps over a great extent of the earth. We witness them to prevail alike in Russia and in Poland, among the Turks and the West Indians. It is a very prevailing notion that all the great epidemics have sprung up in warm climates, and have been diffused from south to north; but this is not quite correct; for example, the yellow fever is known to arise in the cold latitudes of Massachusetts and New Hampshire, and in the temperate regions of Georgia and the Carolinas, as well as in the burning Antilles; and it not unfrequently ravages the most northern towns of the United States, while the inhabitants of the more Southern, and of the American Archipelago are quite free from it; so often is this the case, that the merchants between the tropics accuse the people of New York and Boston of having imported the disease. The great pestilence of 1798, which ravaged the United States, commenced at Boston, situated in 45° N. and that which swept over so large a portion of Europe towards the close of the sixteenth century, shewed itself first in the Gulf of Finland, then passed over Livonia and other northern countries, to England, afterwards to Italy and the South of France, even to the Island of Crete. The dreadful plague of 1719 began at Aleppo, and is supposed to have furnished the germ of that one which depopulated Marseilles on the following year; and again, a previous plague of the early year of the 17th century, appears to have broken out at nearly the same time in the northern and southern nations, as Russia, Livonia, England, France and Turkey. It appears therefore from the preceding date, that epidemic disorders are confined to no particular climates or latitudes; this is one feature of their character; another is, that the human system appears to become somewhat accustomed to their pernicious influences by a long residence in the countries visited chiefly by them, so that it is less susceptible of suffering from their attack; as a proof of this, we may state that the Creoles do not fall victims to the yellow fever in the same proportion as the other inhabitants of the West Indies, thus two-thirds of the fine French army sent in 1803 to St. Domingo, were sacrificed by this plague, at a time when the Creoles, Planters and Negroes, were enjoying complete exemption. The variety of a second attack of pestilential disorders is a subject worthy of attention. Dr. Russel states that out of 4,400 patients who had the plague, only twenty-eight were attacked by it a second time, a statement which shews that the animal system can in course of time adapt itself to the most deleterious atmosphere.—*Révue Med. Sept.* 1832.

(*To be continued.*)

XXVII.

USE OF TARTAR EMETIC IN PNEUMONIA, &c.

Case 1.—A female, aged 29, was admitted into the Hôpital Necker with symptoms of pneumonia; in addition to the ordinary symptoms, the crepitating râle could be heard distinctly. She was bled, and put on low diet. Next day she had thirty leeches on the side; on the following day (28th March,) she was again bled; on the 29th, the dulness on percussion had increased; bronchophony was extensively heard, and likewise bronchial respiration. Bleeding repeated. On the 30th, a blister ordered. On the 2d of April, the

symptoms were bronchial respiration; louder crepitating râle; almost the whole right side, sounding dull when struck; pulse intermittent. Sinapisms to the legs.

3rd. Tending to delirium; thoracic symptoms nearly as before. Infusion of polygala senega; a mixture containing four grains of emetic tartar ordered; and to be repeated in the evening with the addition of some syrup of poppies.

4th. The patient has been copiously purged; but not much vomiting; is better on the whole. Emetic mixture repeated.

5th. Has been only triflingly purged and vomited; the "tolerance" of the drug has been established; pulse again intermitting; the emetic mixture to be given twice with the syrup of poppies.

6th. Several alvine evacuations; pulse intermittent; the chest is becoming more sonorous at the upper right side; the respiration and subcrepitating returning râle is heard. Omit the antimonial mixture.

7th. Great prostration; eyes dull and sunk; pulse small and intermittent; nevertheless since the auscultatory state of the chest is more satisfactory, the antimonial to be resumed, and the quantity encreased to eight grains, taken in two doses, at two hours' interval.

8th. Local symptoms of the peripneumonia still abating; only two stools.

9th. Better; no stool; pulse 75; chest has almost recovered its natural sonorousness. A mucous subcrepitating râle is heard.

From this time she gradually improved in health.

Case 2.—A female aged 25, was admitted on the 20th June, with all the symptoms of pneumonia, which had existed for several days. We need not enumerate the symptoms, and shall only allude to the auscultatory signs. The chest is dull behind on percussion; the respiration on the right side is bronchial; on the left, the crepitating râle is heard feeble, and as it were, at a distance. Venesection.

On the following day all the symptoms nearly the same; ordered, a mixture containing eight grains of tartras antimonii, to be taken, by a spoonful, every half hour.

22nd. Has vomited four times, and been purged about 20 times; a favourable change already visible. Mixture with six grains.

23rd. Not quite so well; has been neither vomited nor purged, so that the "tolerance" is now established. Mixture to be omitted, and simple pectoral medicines ordered.

24th. Much better; crepitating râle heard distinctly on the right side. She gradually recovered.

Case 7.—A carman aged 37, after being exposed to the cold and wet, was seized with pain in the chest, cough, dyspnœ, &c. these symptoms had continued for three days before he had entered the Hôpital Necker on the 2nd of January. When examined by percussion, the chest sounded dull behind; the respiratory murmur was not audible, but there was distinct bronchophony; no crepitating râle on the right side; whereas, on the left, the sound on percussion is clear, and the crepitating râle is well marked. V. Sectio. Mixture with eight grains of the tartras antimonii.

3rd, One stool; has not vomited, is sensibly better, respiration is less bronchial and the air is heard to penetrate more freely into the right lung, as indicated by the presence now of the crepitating râle on this side. Continue the mixture as yesterday.

4th. Still better; the "tolerance" is now induced; no stool, nor vomiting. The dose of the antimonial to be encreased to 12 grains.

5th. No evacuation upwards or downwards, crepitating râle more distinct on the right side, and the bronchial respiration is less. Dose to be increased to 15 grains.

6th. The left lung, which at first presented the crepitating râle, has now returned to its normal condition. Pulse has fallen to 60. Mixture, with 18 grains.

7th. Continues better; the crepitating

râle heard over all the posterior and right part of the chest. Continue the mixture, as yesterday.

He left the hospital quite well on the 28th.

Case 13. A man aged 42, laboured under pneumonia. He was ordered to be bled; but the surgeon failed in all his attempts to open a vein, so deformed and rickety was the patient. A mixture, containing six grains of the tartrate with an ounce of the syrupus papaveris, was prescribed. On the following day (15th Feb.), the patient was better; no vomiting, and only two stools. Mixture, with eight grains, and an ounce of the syrup.

16th. The auscultatory signs indicate that the pneumonia has advanced still more to resolution. Continue the mixture as yesterday.

17th. Is better; only a little mucous râle to be heard.

23rd. Completely cured.

Remarks. M. Bricheteau, physician of the Hôpital Necker, and the reporter of the preceding, among many other similar cases, states that, in his experiments on the effects of the tartrate of antimony, he has been anxious to determine the particular cases in which the contra-stimulating practice, as it has been called by the Italian physicians, may be advantageously substituted for the antiphlogistic treatment. In almost all the examples which he details, bleeding had been employed at first; and, in most, it was only when depletory measures seemed to promise little success, that recourse was had to the antimonial administration. He selected 14 cases for trial, and, before ever exhibiting the powerful agent, most cautiously ascertained that there was no gastric or abdominal irritation to contra-indicate its use. He frankly admits that, when he commenced the practice, he was very sceptical of its good effects; but that now he regards it as a most potent, or, perhaps, the most energetic, of all curative remedies, in a vast number of pneumonic inflammations, especially in such constitutions as do not well bear evacuations of blood. The following is a brief abstract of its effects, in the 14 cases which are detailed in the author's paper.

In the 1st, the patient had been bled twice and had been blistered, without any decided benefit, before the antimony was used; and although most unfavourable symptoms existed, he ultimately recovered.

In the 2d, a bleeding appears to have done little service, and two doses of the medicine sufficed to arrest the disease.

In the 3d, two bleedings had been ineffectually practised, without any amelioration of the physical signs; and yet four doses of the antimonial caused them speedily to vanish.

In the 5th, we find that a relapse took place after an abatement of the symptoms, which had been favoured by four bleedings. Two doses sufficed to restore the patient, and that, too, very quickly.

In the 6th, the good effects are also very obvious. In the 7th and 8th, the bleedings and antimonial were employed together on the first day of the treatment, as is the practice in Italy, the cradle of the contra-stimulating system. In one of these cases, the dose was raised to 18 grains daily.

In the 9th and 10th the results are also striking; in the latter, an exacerbation of the symptoms, which had been much mitigated, came on, yet promptly gave way to the antimonial, in the dose of 18 grains.

The 11th case was treated successfully with the antimonial alone; no bleeding was practised.

The 12th case is also a favourable instance. The 13th and 14th, patients died.

It will be seen that the medicine was never carried to the extent which has been recommended by the Italian physicians; and M. Bricheteau states that, whenever the resolution of the disease appeared to make rapid strides, he omitted it immediately, leaving to Nature the completion of the cure; when the resolution was more gradual, the dose was

gradually diminished. He never exceeded 18 grains at once; sometimes he added small quantities of opium to it, to check the nausea which distresses many patients, and to hasten the "tolerance" of the medicine. It was usually exhibited in an infusion of chamomile and orange leaves, and given by a spoonful at a time, at very short intervals. —*Ibid.*

The preceding observations are well worthy the attention of every reader. We have given all the pith and substance of M. Bricheteau's memoir.—ED.

XXVIII.

DR. GRAVES ON PERIOSTITIS.*

Dr. G. divides periostitis into two kinds—diffused and circumscribed. The former is that which usually terminates in necrosis, and falls to the care of the surgeon; the latter constitutes nodes. It is to the latter affection that Dr. G. limits himself, in a clinical lecture delivered at the Meath Hospital.

Circumscribed periostitis may arise from cold; most commonly from a specific cause, as syphilis, mercury, or scrofula.

It presents some varieties. First, it exists without detachment of the periosteum from the bone. The membrane becomes inflamed and thickened, the bone beneath vascular. There is now pain and tenderness in the part, sometimes with swelling and discoloration of the integuments. The affection becomes chronic, the symptoms rather decline. Then the periosteum becomes more dense, even fibro-cartilaginous. When this change has taken place, Dr. G. thinks it doubtful whether the diseased mass is ever again absorbed. We are not so sure of this. We see now and then, rarely, we admit, the most solid and bony nodes diminish under the influence of mercury. If healthy bone and fibrous tissue admit of absorption, why may not new osseous or fibrous structure? When ossification takes place in a node, the external lamina of the true bone beneath is in process of time absorbed, and, at the same time, a cancellated structure is developed in the node, the two orders of cancelli thus becoming continuous. The tibia of prostitutes are often much disfigured, from irregular bony elevations of this description.

Secondly, periostitis may be attended with detachment from the bone beneath, and of this there are several varieties. The first variety is this. In a space, varying from twenty-four hours to eight or ten days, an elevation appears on some part of a bone, with pain and tenderness on pressure, forming a tumour apparently solid, but, on accurate examination, somewhat elastic. Soon a gradual diminution of the pain and swelling occur, the fluid effused under the periosteum is absorbed, and the subjacent bone and periosteum become again united. This process generally occupies some time, but occasionally is more speedy. The tumours which rapidly form and disappear on the scalp are of this nature. The surface of the bone does not die. Usually ulceration of the skin does not occur in this variety; but, if it does, the cure is effected by granulations arising from the vascular surface of the bone. In the second variety, matter is effused beneath the periosteum, the bone affected becomes vascular at a little depth, but the surface is white and dead, and consists of a thin, worm-eaten, cribriform lamella, which, after some time, separates, and opens for itself a passage through the integuments. The cure is effected by granulations from the vascular part of the bone beneath.

Scrofulous periostitis is a simultaneous affection of the bone and periosteum. Sometimes, in vitiated constitutions, the periosteum becomes affected, from ulceration commencing in the skin, as in rupia, ecthyma, &c. In all, except the first species of periostitis described, Dr. G. recommends cutting through the integuments and periosteum, as recommended by Mr. Crampton.

The scrofulous periostitis (node) is attended with milder symptoms—less pain and tenderness—less swelling—and occurs

* Lond. Med. and Surg. Journal, Dec. 29th, 1832.

at an earlier period of life. Not but scrofula may be combined with the deleterious effects of mercury, or with syphilis. The history and the circumstances must determine this. Mercury and syphilis, too, may combine to produce node, indeed it is probable that, in most cases of node, this is the fact. Some of these cases are most perplexing and most miserable.

Dr. G. adverts to the treatment. As local means, leeches, blisters dressed with savine ointment, the antimonial ointment—in obstinate cases, cutting down to the bone—when ulceration takes place, and there are pale granulations, the introduction of a stick of nitrate of silver, and touching a given part of the surface every day. As to the general treatment, when the constitution is strong, and there is otherwise no objection, the use of mercury; and this Dr. G. considers the best mode, if the symptoms be violent, even though mercury should have been already given. Mercury carried to decided salivation, and continued three or four days afterwards, is particularly suited to the painful species of cranial periostitis already alluded to. When the symptoms are less violent, the pil. plummeri, blue pill in alternative doses; and, in debilitated persons, the corrosive sublimate perhaps, or De Velno's vegetable syrup. Dr. G. has seen several restored to health by the agency of the latter. A great objection to the use of mercury among the poor, even in hospitals, is their subsequent inevitable exposure to cold.

Next to mercury, Dr Graves ranks colchicum and tartar-emetic; the former preceded by bleeding, and combined with an opiate and magnesia. Colchicum cannot well be combined with antimonials, on account of the disturbance of the stomach which they occasion. Narcotics are serviceable, during the whole course of the disease. When it becomes chronic, sarsaparilla may be given, with nitric acid.

We think these observations of Dr. Graves not unworthy of attention. The point to which we would particularly direct our readers' notice, is the employment of incisions when the pain is severe, the tension of the periosteum considerable, and inflammatory action present. We are quite alive to the powers of mercury in acute fibrous inflammation, and, indeed, in chronic: yet still, on the whole, we would rather do without it if we could. There is too much reason to suppose, that node would seldom occur as a sequela of the venereal *per se*, and even when, by mercury, we arrest the acute inflammation, we suspect that we are laying the foundation, in many cases, of ulterior mischief—of more extensive implication of the bone and periosteum. In the treatment of periostitis, we would rather try strict antiphlogistic treatment and incision first; and, if these failed, we would reluctantly be driven to mercury. It is with node as with some forms of the pustular and tubercular eruption: if we are too easily persuaded to introduce mercury, we not unfrequently complicate the case still farther, and diminish the chances of the unfortunate patient.

XXIX.

FRACTURE OF THE PATELLA AND NECK OF THE FEMUR.*

IT is well known that, if one patella be broken, there is a great liability to the same accident on the part of the other patella. How is this to be explained? Some have supposed that the cause consists in an unnatural brittleness of the bones of the individual affected. Sir Charles Bell takes another view of the matter. In an interesting clinical lecture, reported in our weekly cotemporary, he observes that the second accident is the result of the first. The patella being broken, that leg is rendered weaker, the patient is more liable to slip, and, in attempting to recover himself, he principally employs the other leg, the patella of which is exposed to the sudden action and whole force of the extensor muscles of the thigh, and snaps in consequence.

Why does not the patella commonly unite by bone? Because, says Sir Ch.

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* Ibid.

Bell, when broken by the action of the muscles, there is no direct violence, consequently little inflammation or effusion of coagulating lymph, but, instead of it, merely an increased secretion of synovia.

When, however, the fracture is produced by direct violence, there is much more inflammation; and it is of great consequence to know this, and to act upon our knowledge.

Case. A coachman was taken into the Middlesex Hospital, with the patella broken by a blow. The house-surgeon, acting as he was accustomed to do in other cases, applied a bandage, and in twenty-four hours such inflammation had arisen in the joint, that nothing would subdue it, and the man died.

In these cases of patella broken by violence, the inflammation may be the means of producing ossific union.

Sir Charles Bell remarks that the neck of the femur may be broken in three ways. 1, In old age the bones become brittle, and an old lady, tripping upon her carpet, falls upon her hip, and dies from the injury. On examination, the neck of the bone and trochanter major are found "broken like a tea-cup." 2. If a person fall with his foot in a hole, or jump out of a window, the neck of the bone is broken off in the joint, and the fracture being within the capsule, union will not take place, because, says Sir C. Bell, there is not sufficient inflammation. 3, Finally, the bone may be so broken, that the head and neck are wedged into the shaft, constituting a common fracture, which is followed by consolidation and re-union. To recapitulate; we may have a fracture in old age from a blow on the trochanter—fracture within the capsule—and, thirdly, fracture external to the capsule.

Sir Charles Bell gives an useful caution to surgeons, respecting shortening of the lower extremity after an injury to the hip. A person receives such an injury, and the surgeon, on a careful examination, can discover neither dislocation nor fracture. The case goes on, and, in a month or two, the patient hobbles about with a shortened limb, when some good-natured friend informs him that you have treated the case improperly. The surgeon should always keep in mind this shortening, or apparent shortening, after inflammation, and mention the liability to it at an early period. It is too late to explain it when it has once arrived.

XXX.

Clot Bey on the Guinea-worm in Egypt.*

M. Clot, with his Egyptian pupils, appears to be exciting a great sensation in Paris. He is exhibited in the Institute and Académie—lionised at the hospitals—and a lengthy contributor to the journals. The French savans are delighted with the idea, that a Frenchman is active in re-civilising the land of the Pharoahs and the Ptolemies, under the influence of the extraordinary barbarian who now rules it; and in some of the periodicals, we find their enthusiasm getting vent in ejaculations of astonishment, and in dreams of the resuscitation of Egyptian grandeur. We will confine ourselves to the more sober task of extracting some particulars from M. Clot's communications.

The Guinea-worm was rarely observed in Egypt prior to the conquest of Sennar by Mohammed Ali. It has subsequently become very common, especially since numerous caravans from Ethiopia have arrived at Cairo, and the Ethiopians have been freely incorporated with the Arab regiments. When M. Clot went first to Cairo, in 1825, he found nearly a hundred persons affected with the Guinea-worm, in the hospital at Abow-Zabel. They were placed by the Government under the charge of two Arab surgeons, who were thought to be most acquainted with it, and most likely to treat it successfully. M. Clot contented himself, for some time, with watching their practice; but, finding it grossly empirical and extremely unsuccessful, he sent the Arab surgeons to the

*Annales de la Médécine. Aôut, 1832.

right about, and confided the patients to properly-qualified assistants.

We need not give M. Clot's description of the worm. It is familiar to the reading part of the profession. The length of the worm in Egypt varies from six inches to four feet—the longest that M. Clot has observed. He has obtained no certain information on the causes of its production or appearance. The inhabitants of Cordofan, Sennar, and Darfour attribute it to the heavy rains of April, May, and June. They think that it is a small animalcula, which attaches itself to the skin of those who bathe in the waters, but no person could affirm that he had seen such an animalcula. Though commonly observed amongst the negroes, M. Clot has seen it in a great number of Arab soldiers incorporated with the negroes, and in two Europeans. Dogs brought into the hospital have been attacked with it. It is seen in all parts of the body, but chiefly in the lower extremities. The same individual may suffer from several at the same time; indeed, so many as ten or twelve were not unfrequent. A friend of M. Clot's, Dr. Marrudri, who made the campaign of Cordofan with Defterdar-Bey, was successively tormented with twenty-eight.

The presence of the worm is detected in various ways. When placed superficially beneath the skin, it occasions a painful itching, which sometimes shifts its place, and the seat of the disease is transported to another part. In other cases, the worm may be distinguished in the form of a spiral cord, winding round the limb, and looking like an inflamed lymphatic or a vein. When present in parts not furnished with soft tissues, as the fingers, the articulations, &c. it occasions very severe suffering. When deeply placed in fleshy parts, it gives rise to an indolent swelling, which may remain for several days, and even months. In all cases, when it is about to make its exit, the pains become more intense, general symptoms arise, the part inflames, a small abscess forms and breaks, and a larger or smaller portion of the animal escapes. Sometimes the swelling is greater, and the whole of the worm is found rolled up in it. In other cases, which, however, are uncommon, the worm is not seen at first, and doubts of its existence may be entertained; in a few days afterwards it shews itself, or gives rise to a fresh abscess, more or less remote from the former. The suppuration from these abscesses is thin and serous.

The treatment varies with the part occupied by the worm, the manner in which it presents itself, and the symptoms which it occasions.

In ordinary cases, it is better to let the worm issue spontaneously; but, as soon as a part of it makes its escape, it must be tied by a piece of silk to a small cylinder of diachylum, round which it is to be rolled, a moderate degree of traction being exercised on the portion still imbedded in the body. The two extremities of the cylinder are made flat, and fixed in the vicinity of the abscess, on which is to be applied some simple dressing, or a light poultice, according to the amount of irritation. The worm is drawn out a little at each succeeding dressing, till the whole of it is removed, great care being taken not to break it, as this accident protracts the period of treatment.

If the worm does not soon make its way out spontaneously, and if placed so superficially as to be felt or seen, M. Clot has often made an incision on its track, seized it as near its centre as possible, tied it in the manner already mentioned, and thus drawn out both ends at once.

When the animal is deeply-seated, there is sometimes great swelling of the limb, deep abscesses form, sinuses result, and serous discharge continues for several months, without the worm making its appearance. In these cases M. Clot employed general and local antiphlogistic measures, with benefit.

Two patients, in one of whom the worm was in the fore-arm, and in the other in the tibio-tarsal articulation, suffered the most excruciating pain, which produced

cramps and convulsions. M. Clot relieved them by the cautery, after having vainly tried anti-phlogistics, narcotics, &c. M. Clot has seen several patients with deep abscesses die, without the worm making its appearance. M Clot has tried various remedies empirically, without effect; among these he enumerates mercurial frictions, liniments, the liquor of Van Swieten, oil of bitter almonds, sulphur, &c.

M. Clot is inclined to believe in the communicability of the disease by contagion. Thus, it is only seen among those Arabs who are in communication with the negroes: and M. C. has observed that it becomes less severe, less frequent, and at length ceases altogether, in proportion as the period of the incorporation of the negroes with the Arabs in the regiments is lengthened. For several years, no case of the kind has been seen in the hospital, no incorporation of negroes with the army having taken place during that time.

M. Clot concludes the memoir by the recital of some cases, and the insertion of reports from other surgeons, stationed at Sennar, Cordofan, &c. We shall content ourselves with glancing at one or two facts, that bear on the preceding general description.

Case 1. A negro of Darfour, æt. 25, who had served with the Egyptian troops for seven months, was admitted into hospital on the 21 April, 1825, with swelling of the scrotum, accompanied with fever. He was placed in the venereal wards, under the supposition that his disease was syphilitic. A poultice was applied next day, and he was bled in the arm, and the applications were continued for ten days. A larger swelling then appeared on the right side of the scrotum; it was opened, and, to M. Clot's surprise, a Guinea-worm was discovered. The practice already described was employed, and the worm was extracted entire; it was twenty-three inches in length.

Case 2. M. Dussap, chief of the medical staff of the army of Egypt, had, in 1822, the charge of upwards of 400 persons, affected with Guinea-worm, in the Hospital of Souan. He himself contracted the disease. It commenced by a painful itching on the dorsal surface of the first phalanx of the index finger of the left hand. A vesicular tumefaction, with burning pain, succeeded, and increased daily. The whole limb became implicated, and the hand especially was the seat of such violent pain, as prevented, for many days, an instant's repose. The nature of the affection was not suspected, and it was treated on general principles. After some days the worm made its appearance, and was gradually withdrawn.

M. Dussap is a decided advocate of contagion, and, amongst other apparent instances of it, mentions the fact of several dogs, who fed on the poultices, &c. in the hospital, being attacked with the worm. It is remarkable, too, that the finger, the part of the surgeon most exposed to the influence of such a contagion, if it be one, was affected.

Case 3. M. Dot, a French teacher in the service of the Pacha, and constantly communicating with the negroes, observed a slight vesicle, with a red areola, between the first and second toe of the right foot. It was accompanied by trifling serous discharge and somewhat painful itching. At the end of fifteen days, M. Dot was obliged to discontinue his employment. Deep-seated pain and swelling of the foot now succeeded, and soon afterwards a portion of the worm made its appearance, and seven inches of it were drawn out, with great pain. The swelling increased, the pain augmented, and there was much fever. A second spot appeared above the external malleolus, and was soon followed by another worm, eleven inches of which were drawn out, with much suffering. The disease continued to make progress. Two other worms made their appearance on the external border of the tendo Achilles; two inches of one, and twenty-four of the other were extracted. The leg and foot were

now enormously swollen, the pain intolerable, the fever very great. Deep incisions were made on the different points where the worms were found, much matter was discharged, and two portions of worms of different lengths were found. From this time the patient rapidly recovered.

M. Clot deserves the thanks of the profession for this interesting paper. We trust we shall receive from the same hand, information on the diseases, or modifications of diseases observed in Egypt.

XXXI.

MR. ADAMS ON CONGENITAL HERNIÆ.*

1. *Congenital Enterocele.*

CONGENITAL Hernia seldom becomes strangulated in very young children. But the object of Mr. Adams is to shew that it may be so; that practitioners should not only be aware of the fact but attentive to it; and that, if there be strangulation, they may boldly proceed to an early operation.

Case. W. F., aged 18 months, still at the breast, puny; was admitted into the Jervis-street Hospital, on Sunday evening, March 18.

"The countenance was pale and sunken, the eyes languid, and surrounded with a dark circle; the child was restless, feverish, and thirsty, and every thing swallowed was instantaneously rejected from the stomach, while the bowels (which heretofore had been affected with an habitual diarrhœa) were now, and had been for the last two days, in an obstinate state of constipation. Upon exposing the abdomen, we observed that it was prominent, tense, and tympanitic, and the right inguinal ring appeared to be distended by the broad base of a pyramidal-shaped tumour, the apex of which was formed by the lowest part of the scrotum; this tumour had just the same tense feel that the abdomen itself had, and evidently contained intestine in a state of strangulation. The lowest point of the distended scrotum was intensely red from inflammation; this swelling, which constituted the hernia, was painfully sensible to the slightest touch, and the whole abdomen, both as to tension and sensibility, was nearly in a similar condition."

The child had been observed to be ill for 48 hours, the illness commencing with vomiting, followed by fever and constipation. The inguinal swelling had not been noticed till the day of admission.

The taxis and a tobacco enema were used without benefit. At 8 p. m. there was a consultation, and the operation was determined on, and immediately performed. We need not detail the steps of the operation; it was executed in the usual manner. The tunica vaginalis was completely divided up to the external ring, when the testis was disclosed below, and a portion of intestine of a deep maroon color and polished surface above. The stricture was so tight that a director could not be passed through it. A probe was introduced into the abdomen, withdrawn, and the stricture divided by a small blunt-pointed bistoury, guided by the nail of the index finger of the left hand; the division was upwards and inwards. The child slept for three hours after the operation, and on awakening discharged flatus soon followed by a copious fæcal evacuation. The sutures were removed on the 4th day —no unpleasant symptoms whatever ensued—and the child is well, save that a hernia still exists, for which it wears a truss. Mr. A. expects that the truss will effect a permanent cure.

II. *Congenital Encephalocele.*

This is a very dangerous, sometimes a very obscure disease. The protrusion takes place through a congenital opening in some part of the cranium, and may consist of cerebellum, or both, with their membranous envelopes. The following are the characters of the complaint, such as it has presented itself to Mr. Adams.

"From whatever part of the contour of the cranium, the tumour which constitutes

*Dublin Journ. No. vi.

the hernia projects, it is of an oval or spheroidal form, soft and colourless. It is attended with pulsations synchronous with those of the heart. These pulsations, when the patient is at rest, are sometimes indistinct, but are rendered very manifest both to sight and touch on the slightest exercise. The patient, when old enough to be able to give us an account of himself, says he never feels any pain in the tumour; if an infant, he seems to suffer no uneasiness, even when the swelling is subjected to gentle pressure; the size of this tumour is momentarily augmented by the efforts of coughing, sneezing, or even crying; during any respiratory effort, a blush of redness is seen rapidly to pass over it, through the skin, which is generally thin and semi-transparent where it covers the hernia. On carefully applying the fingers around the base of the tumour, the borders of the opening in the cranium, through which it has escaped, are easily felt, sometimes these borders are smooth and even; but I have in one case found them offering rough and elevated edges.

The intellectual faculties in all the cases I have witnessed, at a period of life when these could be estimated, remained entirely unimpaired."

The characters of the complaint are not always so well marked. Thus, Lallemand relates a case in which the tumour was mistaken for a wen, and an operation was in consequence commenced. The congenital encephalocele does not occur at the fontanelles so frequently as might be supposed; it more commonly protrudes through some one point of the occipital region, in the median line. At birth, the tumour presents a distinct fluctuation; in the adult, the fluid has been removed and the prominence is softer. Encephalocele, like spina bifida, generally co-exists with hydrocephalus; but Mr. Adams thinks that spina bifida is the more dangerous of the two. Mr. A. has not seen, in any case, paralysis of the upper or lower extremities. The danger of these cases is chiefly confined to their early period, and from hydrocephalus being, in such cases, almost uniformly present, over-distention and ulceration of the hernial sac are the consequences to be dreaded.

"The chief bulk of the tumour will be found, on anatomical examination, to be formed of brain or cerebellum, and if examined, soon after birth, to be of a soft consistence, the convolutions flattened, and the whole structure infiltrated with water. The hernial sac is constituted by dura mater protruded before the brain, and lined internally with arachnoid membrane, fortified externally by that structure which in the perfect cranium constitutes its proper periosteum."

In one case, Mr. A. observed the tumour to project through the right portion of the os frontis. It has been seen at the root of the nose, where, for some weeks, a deficiency intervenes between the nasal processes of the frontal bone.

Mr. Adams observes that he has no confidence in the plan of treatment generally recommended by authors, namely, pressure. It is, he thinks, inapplicable to the first stage of the complaint, in which hydrocephalus so often co-exists, and useless in the latter stages. Mr. Adams speaks more favorably of frequent puncturing by a fine needle, after the manner recommended by Sir Astley Cooper in cases of spina bifida. He does not think a puncture made so carefully as to allow the limpid fluid to escape, but not to admit any air, a dangerous operation. The method of treatment which seems best, upon the whole, to Mr. A. is, to fortify the skin by astringent applications of oak-bark and alum; but, if over distention and ulceration of the skin threaten, he would not delay the operation of puncturing the tumour. In the second stage of the complaint, the only indications appear to be, to preserve the tumour from external violence. The medical treatment appears to consist, exclusively, in meeting any functional disturbances that may arise with appropriate remedies.

Mr. Adams relates some cases of the disease.

Case 1. "The head of the infant was the smallest I have ever seen; the forehead was depressed, and a tumour as large as an or-

ange projected downwards and backwards from the occipital region. The chief bulk of this tumour was evidently formed by a fluid, as upon examining it, a distinct feeling of fluctuation was communicated to the fingers. The child for several hours after its birth seemed in a languid, dying condition; its respiration slow and imperfect; Dr. Macabe made a small puncture into the tumour, and a considerable quantity of limpid serum flowed out; after which the infant seemed to immerge from a state of stupor, its pulse became perceptible, it took some little nourishment, the puncture at once closed, but the child survived only nine days.

Upon dissection, I found that the sac (formed of dura mater) contained the entire of the cerebellum, and a great part of both posterior lobes of the cerebrum. These organs were softened, infiltrated with water, and surrounded with a quantity of limpid serum."

The calvarium was thin, but firm; the bones of the cranium touched in the whole line of the sutures, so that there was no fontanelle. The opening in the occipital bone, through which the herniary protrusion occurred, was comprised between the cuneiform apophysis in front, and the superior angle above and behind, the bone being thus cleft in the middle line by a large oval hiatus, two inches in its greatest diameter, and measuring transversely, in some parts, nearly an inch. This hiatus in the recent state, was divided into two by a membrane, the anterior division being the proper occipital foramen—the posterior larger, the ring through which the encephalocele had protruded.

Case 2. The head of the child was of the ordinary size; the tumour, of the size of a large orange, projected backwards and overhung the neck. The case was left to nature. The tumour slowly increased—ulceration gradually occurred and extended—a clear albuminous fluid escaped—the child was exhausted, and died convulsed at the end of the seventh week.

Case 3. Mr. A. has had for many years under his care a lad, now 20 years of age. The tumour, broad and flat, occupies nearly the whole of the right half of the forehead, and extends to the temporal fossa, occasioning hideous deformity. The roof of the orbit and superciliary arch are obliquely depressed to a considerable degree. The eye is much distorted, the cornea opaque. The tumour has an unequal surface, is soft, unresisting, pulsates synchronously with the heart, and receives an impulse on sneezing or coughing. The neck of the tumour is broad, the skin thick and pale, the edges of the bony ring, through which the tumour protrudes, marked by a rugged, uneven ridge. The mother of the lad states that he was born with the defect, and that he has never suffered other inconvenience than the affection of the eye. During the last seven years, the size of the face has increased, but the forehead and hernia have undergone no sensible alteration.

Case 4. A. B. æt. 6, a healthy-looking child has at present a tumour, presenting the characters of encephalocele already enumerated. It is seated a little below the occipital protuberance, about the size of a hen's egg; its connexion with the head is narrow; the margins of the opening in the occipital bone, through which it passes, are well defined. The skin covering it is unequally thin and somewhat transparent; the surface irregular, and conveying the idea that the posterior lobes of the cerebrum are contained in the tumour; the head otherwise is well formed, and the fontanelles have been long completely closed.

Mr. A. saw this child very soon after its birth. The tumour was then as large, and nearly of the same form, as at present. The skin, however, seemed ready and likely to burst, and it was thought best to puncture it, which was done by introducing the needle where the skin was soundest and thickest. Half an ounce of clear fluid escaped, the sac became flaccid, but a tumour the size of a walnut remained, and formed the principal part of the protrusion. The wound was carefully dress-

ed. It was necessary to repeat this operation seven times, once with a lancet; on that occasion only was there any subsequent fever or restlessness. Pressure was tried after one of the operations of puncturing; it produced convulsions, and was necessarily abandoned. Gradually the skin became thicker, the quantity of the fluid diminished, it was no longer necessary to repeat the operation, and the child is at present in the satisfactory state described at the commencement of the case.

This concludes Mr. Adams' paper. We have condensed it greatly, but we believe that we have presented most of what is important. It is a contribution to our stock of surgical knowledge, and not unworthy of the attention of surgeons.

XXXII.

SPONTANEOUS CURE OF HYDROCELE. THE following case is related in our valuable contemporary of Dublin. It is extracted from a German Journal.

A man, aged 52 years, had been affected with hydrocele for many years. The tumour having been punctured, a quart of serum flowed out, and the testicles were found to be healthy. Nine months afterwards, the tumour had acquired the volume of a child's head. Dr. Krimer proposed to cure it radically by incision and extirpation of the tunica vaginalis, to which the patient consented. At the day appointed, Dr. Krimer and his colleagues having gone to the patient, were surprised at not finding the slightest trace of the hydrocele. The man said, that the evening before, having attempted to raise up a weight of 200lbs., he had felt a violent pain and a noise in the region of the inguinal ring. The pain continued most dreadful, as if the belly was being torn open. He then went to bed, passed much urine, and having fallen asleep after the pain, became somewhat easier, the next morning there was no trace of the hydrocele to be found. An ecchymosis existed over the left side of the scrotum. The spermatic cord and epididymis were varicose, the inguinal ring close, and there was not any trace of the liquor. He felt no pain. After a few days the ecchymosis and the varicose state of the cord disappeared under the use of fomentations.

There is a slight mistake, and we suppose it is in the translation. Dr. Krimer proposed, we are told, *extirpation* of the tunica vaginalis. We never heard of such an operation for hydrocele, nor for any thing else, nor is such an operation possible, without extirpation of the testis. It is not a very uncommon thing for a hydrocele to be accidentally ruptured, when the fluid escapes into the cellular membrane. The case before us does not seem to have been of this description; indeed it is somewhat marvellous, and looks as if it had been loosely observed or narrated.

XXXIII.

BAD EFFECTS OF SMOKING TOBACCO. SUCH is the title of an article in our contemporary, the London Medical and Surgical. As our readers may like to know what these bad effects are, and as the article devoted to them is brief, though themselves may be long, we will gratify their curiosity by extracting it.

"The practice of smoking is now so general, that our atmosphere is strongly poisoned with tobacco-smoke. The air is sufficiently impure in this metropolis, without further contamination. At every corner we see a number of pipes or segars, especially in the mouths of boys or young men. The bad effects of tobacco are first produced on the glands of the mouth, which form the saliva; these are excited and form an increased quantity of this fluid, which, instead of passing into the stomach, to assist in digesting the food, is expelled from the mouth. Great smokers have weakened powers of digestion, and are subject to bilious and nervous complaints, lowness of spirits, and diseases of the lungs and brain. The German medical writers allege, that of twenty deaths of men, be-

tween the ages of eighteen and thirty-five years, ten are destroyed by tobacco. This substance is one of the most powerful narcotics and debilitants; will produce stupor, drowsiness, head-ache, vomiting, and defective vision when used in excess; and, therefore, when long continued, and frequently employed, must be injurious to health."

If this be true, a pipe is indeed a Pandora's box, and woe to the hapless youth, be he of high or of low degree, who dares to open it. We must confess that we do not participate in the alarm of our esteemed contemporary at the contamination of our atmosphere. It will require many more pipes than are at present in circulation, to sully the smoky air of the modern Babylon. We should like to know what are the diseases of the lungs and brain to which great smokers are subject, and how the German writers discovered, that ten out of twenty deaths of men, between the ages of 18 and 35, are produced by smoking. This latter is, we fancy a piece of German fanfaronnade, and carries absurdity upon the face of it. In venturing to dissent from the sweeping condemnation of our contemporary, we beg to say that we are perfectly disinterested, being neither keepers nor frequenters of any "Segar Divan," nor patrons of the "weed" in any shape. But really we think it hard that even an enemy should be treated unfairly; and old as the practice of giving a dog a bad name may be, we do not think that its antiquity consecrates its use.

If smoking were so prejudicial as its opponents assert, the world would ere this have been generally aware of it. The increased civilization and knowledge of the century have nearly banished excesses in wine and spirits from among the educated classes. Their reason and information convinced them that such practices were alike degrading and destructive. But tobacco-smoking is certainly on the increase, and we repeat, that the common-sense of mankind would speedily determine its injuriousness, if it were really injurious in a very perceptible degree. We say nothing of the custom, as a custom; it may be beastly, intolerable, or what not, but we feel well assured that it is not so pernicious as those who dislike it would seem to imagine.

XXXIV.

COMPOSITION OF THE BLOOD IN JAUNDICE *

MR. KANE has examined the blood of a jaundiced patient. It had separated perfectly. Omitting the means by which he arrived at the results, we will merely give the latter.

The serum, when mixed with muriatic acid became grass-green in colour. Its sp. gr. was 1029.25. The quantity of blood sent weighed 3168 grains, and consisted of—

Serum	1420
Clot	1748

A quantity of serum having been carefully dried was found to consist of—

Water	893.1
Solid matter	106.9
	1000.0

A quantity of clot having been dried, was found to be composed of—

Water	656
Solid matter	344
	1000

The salts were found to be present in their natural proportion. The quantitative results of the further analysis were as follow :—

Water	762.28
Albumen	71.4
Fibrine	2 8
Hematosine	126.7

*Dublin Journal.

Phosphuretted Fat	2.0
Oily matter & yellow colouring matter	
Salts, loss, &c.	34 82
	1000.00

"This analysis fully confirms the result of Lecanu as to the existence, in the blood of jaundiced patients, of the yellow colouring matter of the bile, and also to the absence of cholesterine. In consequence of this latter principle being often a constituent, in minute proportion, of healthy blood, I sought for it carefully, but could not detect any trace of it. My results, however, differ in an important relation from those of Lecanu; he found that the quantity of colouring matter was less than in health; in the foregoing analysis it is very nearly the exact healthy average. I am not inclined to attribute great importance to the difference between our results in this respect, as the quantity of that principle varies in health between limits extending beyond both."

XXXV.

The Principles and Practice of Obstetric Medicine. Parts XII. and XIII. By David D. Davis, MD., &c. &c. &c.

The two Parts before us are dedicated to the subject of menstruation. The physiology of this process is amply considered, and then we are presented with its aberrations. We shall endeavour to select some passages which may gratify the curiosity of some of our readers, or convey useful information. Our space is limited, and our notice must necessarily be brief.

Influence of the Moon on Menstruation.

The apparent influence of the moon upon the tides must have been a source of astonishment in all ages; and it was not a very far-fetched idea which imputed to the same potent, yet mysterious agency the monthly flux of the female. The rigorous character of modern reasoning has, indeed, forbidden us to indulge in this philosophical dream, and we are forced to abandon the hypothesis of lunar influence. The following reasoning of Dr. Davis is conclusive against it.

"This theory of lunar influence in the production of the phenomena of menstruation is however liable to many and weighty objections. Experimental observations prove that the various relations of the moon to the earth's surface, are attended with no perceptible determinations or changes of situation of fluids when exposed to its action in artificial and graduated tubes. The column of mercury for example, in the barometrical tube, shows no sensibility to any possibly ascribable influence of the moon. Were this influence the actual exciting cause of the menstrual function, its effects would be uniform and universal upon all its subjects resident in the same latitudes, and therefore at the same time precisely similarly exposed to its agency; whereas the fact is, that women are known to menstruate indifferently at all ages of the moon. If, again, we suppose the agency of the moon to be really the cause of the menstrual tide or flux, as it has been called, we should naturally expect that the same position of that body would, at least in its relation to the same woman, be always productive of the same effects, and that no counter influence from any other quarter could ever by any possibility disturb it. But is this the fact? What is the history of the function in this respect? Why no such law prevails. The function, on the contrary, is capable of being disturbed as to the date of its periods by all sorts of influences. A familiar example will at once suffice to illustrate this statement. Suppose, then a young and vigorous female, a regularly menstruating subject, to become suddenly suppressed, in consequence of an imprudent exposure to the action of cold; and

that this suppression, as frequently happens, should be attended by febrile and otherwise formidable symptoms. In that event, she would probably be induced to apply for the more or less early assistance of the medical attendant of her family. By bleedings, and other active measures, we will further suppose that gentleman to succeed in the restoration of the suspended function; but that that object is not attained till after the lapse of six or eight days subsequently to the suspension. Let it, however, be understood, that the function is eventually perfectly re-established, and the patient perfectly restored to her former state of health. Suppose our patient's constitution to have been at all times most delicately and regularly respondent to the law of the function; that, as in the hypothetical case of Haller, the first appearance of the secretion had always presented itself on the first day of her menstrual month from the commencement of the function to the date of its suppression. On the supposition of the moon being the cause of the function, on what day and in what week of the next, and all subsequent months, should the ordinary appearances of the function present themselves in future? Why surely on the first day of the week, as in former times. That, however will not be the case. The date of the next appearance will not correspond with those of its former periods; but with that of its restoration by the well devised and promptly-applied measures of the medical attendant. This fact, if well founded, and its accuracy admits of no dispute, is at least a proof positive, that the influence of the moon on the catamenial function, if it at all exist, must be of such a feeble nature as most easily to succumb to the operation of other influences; such other influences being competent not only to counteract and to disturb, but apparently to subvert, and summarily to dispense altogether with any supposed previously-existing influence of the moon. In the same circumstances of the moon, the same also should be those of all women equally and similarly exposed to its influence. But do we observe that such is the fact? Women on the contrary, notwithstanding the uniformity of the supposed influence, are subject to all possible varieties of circumstances as to the duration, dates of commencement and termination, modes of performance of the function, its effects upon other functions, physical and moral, as well as upon the general health of its subjects, the quantity, colour, consistence, sensible qualities, and all other appreciable conditions of the discharge. Aristotle on the generation of animals, B. iv. chap. 2. Galen De dieb. secretor. cap. 11. Ricard Mead, M. D. De Imper. Sol. et Lunæ, etc., Lond, 1746. Stahl, Theoria Medic. p. 386. Habenberg, Nov. Act. Erudit. Suppl. t. i. § 7. Shebbeare's Pract. of Physic, p. 261."

Our author notices, and at some length, the laboured theory of M. Le Cat. We have not room for it. But leaving speculation, most unprofitable as it always is on such subjects, let us advert for a moment to the secretion itself. It is curious to observe the opinions of the ancients on this head.

"Some of the best authorities amongst the ancients, among whom we should class Hippocrates and Aristotle, seem to have considered it as pure blood; and therefore make no mention of any properties which they imputed to it of a nature different from those of 'fresh blood from the victim,' as Aristotle expressed himself on the doctrine. The younger Pliny, on the other hand, speaks of its properties, as if they were possessed of the most poisonous malignity. His language is to the following effect: 'With respect to the menstruation of women, nothing could easily be found to cause more curious and fearful results. Unfermented wine-juice is soured by its vicinity to a person in that state. Corn is deprived of its nutritious qualities by it, grafted shoots are killed, and young garden-plants withered. The fruit of trees, on which menstruous women have

sat, falls blighted. The brilliancy of mirrors is dimmed after reflecting their image, the edge of burnished steel is deadened, as is also the shining beauty of ivory. Hives of living bees are quickly deprived of their busy vitality. Copper and iron become rusted, in consequence of being exposed to the contact of the malignant fluid. Dogs that taste it become mad, and their bite infuses with it an incurable poison. They say, that even that small animal the ant can discover the vicinity of a menstruous woman, and that it throws away the provisions it chanced to be carrying at the moment of making that discovery, not taking to them again. This evil of such a nature and magnitude happens to women every thirty days; but prevails to a greater extent every third month. Some, however, have the menses oftener than monthly, others have them not at all. These latter, however, do not bear children; for this periodical flux is the matter which assists the male in the act of generation.—Plin Secund. Natural Histor. tom. ii. lib. 7, cap. 15, art. 13. In the law of Moses, the secretion incident to the function seems to have been considered more in the light of an infirmity of nature and of offensiveness to our senses, than as being possessed of the malignant properties ascribed to it by other ancient writers.—Levitic. xv. 19—38. Isaiah, xxx. 22. Ezekiel, xviii. 6. In hot climates it is indeed probable that the menstruous secretion is very liable to become acrimonious under certain circumstances of inattention to the duties of cleanliness. Hence, no doubt, the origin of the strict regulations contained in the Mosaic ritual, and imposed upon the females of the Jewish nation during and for some days subsequently to the period of the function. The personal habits of the native women of India are such as lead to the same conclusion. The frequency of their ablutions is such as scarcely to be credited, excepting upon the most veracious testimony."

Such is the unphilosophical nonsense of ancient philosophers. It was, indeed, a benefit to the human mind, when Lord Bacon broke the neck of antique sophistry. It is generally believed that the menstruous fluid contains no fibrine. There have not been an adequate number of experiments to determine this satisfactorily. Mr. Brande's analysis appears to deserve most confidence.

"Whilst engaged (says he) in observing the colouring matter of the blood, I received from Mr. Wm. Money, House Surgeon to the General Hospital at Northampton, some menstruous discharge collected from a woman with prolapsus uteri, and consequently perfectly free from an admixture with other secretions. It had the property of a very concentrated solution in a diluted serum, and afforded an excellent opportunity of corroborating the facts respecting this principle, which have been detailed in the preceding pages. Although I could detect no traces of iron by the usual mode of analysis, minute portions of that metal may, and probably do, exist in it, as well as in the other animal fluids which I have examined; but the abundance of the colouring matter in the secretion should have afforded a proportionate quantity of iron, if any connexion had existed between them. It has been observed, that the artificial solutions of the colouring matter of the blood invariably exhibit a green tint, when viewed by transmitted light. This peculiarity is remarkably distinct in the menstruous discharge. I could discover no globules in this fluid, and although a very slight degree of putrefaction had commenced in it, yet the globules observed in the blood would not have been destroyed by so trifling a change."

M. Desonneaux concludes, that in some women, the menstrual fluid does contain fibrine. Dr. Davis criticises his opinion, and believes that, in a healthy condition of the secretion, fibrine is never present.

COMPARATIVE VALUE OF LIFE IN MALES AND FEMALES.

The investigation of statistic tables has produced results, that, to the majority of men must be totally at variance with preconceived opinions. We can only be guided by evidence, and, though the evidence on the relative mortality of the sexes, and of the different classes of society is certainly yet imperfect, there seems good reason to believe that it approaches to the truth. That evidence leads to the conclusion, that the value of life of the female is greater than that of the male. It is not merely greater at particular ages, but at all ages—in childhood, maturity, and senectitude. That evidence proves, also, that the epochs of puberty, and of the cessation of the catamenia, are not so destructive to the female as is commonly supposed. The rate of mortality between the ages of 40 and 50 is much greater in men than in women, and the balance in favour of the latter is equally striking at the age of puberty. We will not stop to enquire why this should be; suffice it that it is. When we look at the habits of either sex, the riddle appears to be partly solved. From the cradle almost to the grave, the life of the male is more stormy—more subject to the influence of destructive agents than that of the female. It is the male who is chiefly occupied in the harassing businesses of life—convulsed by political excitement—exposed to the brunt of war and the caprices of the ocean—liable to accidents—and, by the usages of society, tolerated in excesses. Hesiod observed, many centuries ago, that the men were the working bees, the women the drones that fattened on the honey. Certain it is, that woman, whom the fiat of the Creator made, by the weakness and the peculiarities of her physical organization, the minister to man, finds in that very weakness her own best safeguard, and outlives her tyrant or her master.

Let us look at some of these statistic calculations.

Mr. Finlaison, the actuary of the national debt, observes that, in every census, there are found alive many more females than males, while, in the births and baptisms for every town, district, or kingdom, there is invariably produced at least 105 boys for every 100 girls. M. de Parcieux and Mr. W. Kersseboom have pointed out this difference. The result of the data given by the latter may be briefly stated to be this:—If there were ten classes of children at each age, the first under one year old, the last aged nine, and if the mean duration of life, which it was found each individual in a class had ultimately attained, were separately set out, the sum of the existence obtained by ten boys would be 369 years, and that of girls 402.5.

"In certain observations on the separate mortality of males and females at Chester, as set forth by Dr. Price, the same circumstance occurs. Taking the total existence of the first ten ages as before, there is for the boys 394.9 years, and for the girls 441.62. Yet Dr. Price, in like manner, disregarded the disparity. In other observations taken at Montpellier, the fact was once more affirmed: the existence of ten males, as before, being 396.79 years, and of ten females 424.69. Again, on the whole population of Sweden, it was in like manner established; ten male children having 447.63, and ten females 471.26 years: and lastly, two additional tables have very recently appeared, showing the mortality of males and females respectively, both for the city of Amsterdam and the city of Brussels, for the males 397.97, the females 412.95. So that if the existence of the male children be represented in each of these six instances by the number 100.000, that of the females will by proportion stand as under, viz. anciently in Holland, 109.079; at Chester, 111.831; at Montpellier, 107.031; in Sweden, 105.279; in Amsterdam, 112.005; in Brussels, 103.764. All these results, it will be remembered, except the first, are founded merely on statistical data. But

the superiority of female life is evident in every instance. Finlaison's Reports on the Evidence and Elementary Facts, on which the Tables on Life Annuities are founded, p. 17, Lond. 1829."

Mr. Finlaison's own calculations will, he hopes, remove all doubt whatsoever on this subject. They shew that, except under the age of 12 and above the age of 85, extreme periods, at which, perhaps, no distinction of mortality is apparent, there is at every other period a remarkable and decided advantage in favour of the female. This is first most evident about fourteen, after which the mortality among the female sex is observed to proceed onwards to the age of fifty-five, with the slightest imaginable increase, contrary to the received notions respecting nursing and child-bearing. Above sixty, the female mortality advances more rapidly, but is always, until the age of eighty, at least, very decidedly less than that of the males.

The mortality of males, from the age of 14 to that of 23, presents a remarkable increase, much greater proportionately, than that of females at the same period. This is probably owing, as Dr. Davis remarks, to the greater opportunities for indulgence, of all kind, offered to the male and accepted by him. Subsequently to the publication of Mr. Finlaison's Report, the Directors of the Eagle Assurance Association have introduced a considerable difference in the purchase-price of their policies, in favour of the supposed greater average value of female life; but the example has not been followed by any other life assurance society.

The facts already stated shew satisfactorily enough, that the establishment of the catamenia is not a source of danger to the female, that is, her mortality at that period, as at every other, is less than that of the male. The cessation of the menses has always been looked on as dangerous to woman's life, more dangerous than their establishment. Let us look at the evidence of facts on this point also. Are women liable to a greater mortality at this period than the male sex at the same age, or are women subject to a greater mortality at this than at any other period of their own lives? We must again refer to the calculations of Mr. Finlaison. The advantage in favour of female life, he remarks, is first most evident about 14, after which the mortality in the female sex is observed to proceed onwards to the age of 55, with the slightest imaginable increase.

"The following calculations of the rate of mortality of the government annuitants are made on a scale of 100,000 lives of members of both sexes and of all ages. The results, which are especially illustrative of the immediately current part of our inquiry, are distributed into three epochs of five years each, inclusive of the median line of life in both sexes, and in the female of the period of cessation of the menses. During each of these epochs, the rates of mortality of each sex are given as follows in their respective progressions. Out of 100,000 members alive of all ages, there will die in the five years after the age of 35, i. e. between the ages of 35 and 40, the latter inclusive, of males 7,042, and of females 5,738; in the five years after 40, i. e. between the ages of 40 and 45, the latter inclusive, there will die of males, 6,959, and of females 6,889; and after the age of 45, i. e. between the years of 45 and 50, the latter inclusive, there will die, of males 10,381, and of females 7,714."

Thus, in the government annuitants, there is less difference between the mortality of males and females, from the age of 40 to 45, than either before or after that period, a fact which goes to prove the prejudicial influence of the cessation of the catamenia. But some other calculations have recently been published at Brussels, by Messrs. Quetelet and Smits, in a pamphlet entitled, Recherches sur la Reproduction et la Mortalité de l'Homme, aux differens Ages, et sur la Population de la Belgique, 1832.

"A government order was issued in 1828 for a census of the entire population of Belgium, with directions that it should

include returns of all the births, deaths, marriages, and changes of residence of the people during every year, and accompanied by an intimation that a similar assessment would be ordered for every ten years. The order for the first census was carried into effect towards the end of the year 1829. It is a peculiarity of this assessment that it has furnished distinct tables of results on all the points which it was charged to report upon for two classes of population, viz. for residents of towns and for those of country districts. Now it happens that, on these separate returns for the towns and for the country districts, its reports of the mortality of the different sexes exhibit a most extraordinary discrepancy with all former results on subjects of this kind. In Messrs. Quetelet's and Smits returns of the country mortality, the female deaths present an excess over those of the males during the three series of years corresponding with those just quoted from Mr. Finlaison's reports, in the proportion of something more than 24 to 18. Making 100,000, as in Mr. Finlaison's calculations, the numerical basis of their operations, the comparative mortality of the two sexes for the country districts of Belgium, as given by Messrs. Quetelet and Smits, are as follows; viz. out of 100,000 persons of both sexes alive, the rates of deaths within the five years between the ages of 35 and 40, the latter inclusive, are, of males 4,681, and of females 8,071; in the five years between the ages of 40 and 45, the latter inclusive, of males 5,975, and of females 8,536; and in the five years between the ages of 45 and 50, the latter inclusive, of males 7,692, and of females 8,056. Thus we see represented a most remarkable excess of female mortality in the country districts of Belgium; whereas in all the towns of the Netherlands, the returns would seem to correspond at least in principle with what has hitherto been considered in the light almost of a general law of mortality. Accordingly out of 100,000 inhabitants of the towns of Belgium, the rates of deaths in five years after the age of 35, i. e. between the ages of 35 and 40, the latter inclusive, of males 7,139, and of females, 7,679; between the ages of 40 and 45, the latter inclusive, of males 8,894, and of females 7,153; and between the ages of 45 and 50, the latter inclusive, of males 8,678, and of females 8,062; giving a total of mortality for the three series of years together of 24,761 males and 22,894 females. But the excess of the mortality in some particular towns of Belgium very greatly surmounts the average results of Messrs. Quetelet and Smits. The author is indebted to the further kindness of Mr. Finlaison for the following quotation from a table of the average mortality of Ostend, constructed from the best possible materials, by that gentleman himself, whilst recently residing temporarily in that town. For the convenience of an accurate comparison with the results of the foregoing calculations, the operation is given on the same numerical scale of 100,000 lives. With that understanding, the rates relatively of the male and female mortality at Ostend, during the tract of years intermediate between the ages of 35 and 50, as made out by Mr. Finlaison, and believed by him to be scarcely liable to the possibility of error, is as follows:—Out of 100,000 souls of both sexes and of all ages the rates of deaths after 35 years of age, i. e. between the ages of 35 and 40, the latter inclusive, are, of males 8,041 and of females 6,665; between the ages of 40 and 45, the latter inclusive, of males 11,107, and of females 7,094; and between the ages of 45 and 50, the latter inclusive, of males 13,079, and of females 8,188. From these results it follows, that the difference in the value of life in Ostend against the male and in favour of the female, at a period of life, inclusive in both sexes of the commencement of its decline, and in the female of the cessation of the menses, is in the very remarkable proportion of 32 to 21."

We are anxious to put the whole of the case, as stated by Dr. Davis, before our readers, the investigation being equally

curious and instructive. It is unpardonable, now-a-days, for any educated medical practitioner to be unacquainted with statistical calculations of the value of human life. Dr. Davis concludes the subject by quoting the sentiments of M. Desonneaux. The facts brought forward by that gentleman are somewhat too vague to command implicit belief; but as they are, to a certain degree, borne out by the tables and calculations of Mr. Finlaison, already noticed, it may be right to notice them here. M. Desonneaux, it will be seen, is not one of those who consider the epoch of the cessation of the catamenia as on the whole a fatal one. M. Desonneaux observes that in an essay read by M. Bensiston de Chateauneuf to the Academy of Sciences, in 1818, but not published, "On the Mortality of Women at the Age of between Forty and Fifty," some facts are related, which he thus transcribes:—

"From the forty-third to the sixtieth degree of North latitude, along a line extending from Marseilles to St. Petersburgh, passing by Vevay, Paris, Berlin, and Stockholm, it is a fact that at no epoch of female life, from the thirtieth to the sixtieth year, are we able to discover any increase in the mortality of women, beyond what should be attributed to the natural progress of age; whereas at all epochs of male life, from the age of thirty to that of seventy, we observe a greater rate of mortality of the male than of the female sex. This excess is most remarkable between the ages of forty and fifty. It results from these new observations, that the age of from forty to fifty is more truly critical for men than for women; and that seems to be the fact, whatever be the kind of life they lead, and whether they live in society or retirement, whether in the camp or in the cloister. Inasmuch, however, as it cannot be denied that a certain number of women die between the ages of forty and fifty, IN CONSEQUNCE OF THE REVOLUTION WHICH TAKES PLACE IN THEIR CONSTITUTION AT THAT PERIOD, a cause of mortality which does not exist in the other sex, what would be their decrement of numbers, already actually inferior to that of the male sex during the same period, and what might be expected to be the strength and duration of the lives, did they possess the additional privilege of not being subject to this law."

The whole of the documentary evidence is before our readers. It will require accurate observation and authentic tables, conducted and constructed in various places, and at various times, to determine in a satisfactory manner, the actual value of male and of female life. The contradictory facts observed in the towns and country parts of Belgium, show that we are far from comprehensively informed, and that we cannot yet venture to generalize or average. We trust that philosophic men will devote some of their time, and their attention, to the investigation of the effects of natural laws and human occupations on human life, as evinced by its value at different ages, in different sexes, and in different counties.

XXXVI.

On Hybernation.

In a very interesting paper on Hybernation, Dr. Marshall Hall remarks that there is a strong analogy between this singular state and that of ordinary sleep, the former being only a much exagerated condition of the latter. In both, the necessity of breathing is lessened; Messrs. Allen and Pepys first established the truth of this, in reference to ordinary sleep, and it is very probable that muscular irritability becomes at the same time more energetic, just in the same manner as in hybernation. These phenomena are more obvious in the ordinary sleep of the hybernating, than of any animals; for example, Dr. Hall observed a bat while asleep, and found that its respiration became very imperfect: that its temperature was only a few degrees above that of the atmosphere, and that it might be kept under water for 11 minutes without injury to life.—Similar observations were made upon hedgehogs: while active, their temperature was 95, while asleep, it was only 45°, that of the atmosphere at the time being 42° or 43°. The experiment was the more striking when one hedgehog was asleep, and another was lively, in the same box: the

temperature of the former was ascertained to be 49°, and that of the latter to be 87°. Similar results were obtained in many experiments on dormice. These animals awake daily in moderate temperature, eat, and then fall into a state of sleep; during which the respiration is very imperfect, and the heat of their bodies is little higher than that of the atmosphere. From these statements it appears that the ordinary sleep of hybernating animals is, as it were, intermediate, and forms a link in the chain of resemblance between the sleep of the other mammalia, and the state of perfect hybernation. When a hybernating animal is asleep, their need of respiration is much more lessened, and their temperature falls much lower than in their active state: now this sleep probably passes into true hybernation as the blood which circulates through the brain becomes more venous, and as the irritability of the heart becomes more exalted. Our readers will now perceive the great importance of ascertaining exactly the state of hybernating animals, in reference to sleep. When observations on the temperature of these animals are very carefully made, we have seen that, in the course of an hour or two, their heart may vary 30 or 40 degrees. The experiments of Mr. Hunter, and more recently of Dr. Edwards, are faulty in this respect; as we are not informed whether the animals were quite lively, or dormant, or recently recovered from a dormant state: the hybernating animal, in a a state of activity, is quite another vital being, from the same animal in a state of dormancy.

1. *Of the Respiration during Hybernation.*—That this function is very nearly suspended, is inferred from the following facts: —we cannot detect any movements of breathing; the air of the pneumatometer, in which the animal is confined, is scarcely changed; the temperature of the animal is the same as that of the atmosphere; and lastly, it is capable of supporting, for a great length of time, the entire privation of air. When a bat, or hedgehog, in a state of hybernating torpor, was carefully watched, no alternate movements, either of the chest or of the abdomen, could be perceived; but the least touch, the slightest shake, immediately caused the bat to commence the alternate acts of breathing, and the hedgehog to take in several deep and onerous inspirations. As to the effects on the air in the pneumatometer, the result of Dr. Hall's enquiries is, that a bat in a state of hybernation, which was kept in for ten hours, did not sensibly affect the air; whereas the same animal, when active, absorbed or converted 5-8 cubic inches of oxygen into carbonic acid, in the course of one hour.

It may be a question, whether the slight changes which we find to have taken place in the air, during some experiments, are referable to the cutaneous respiration. Dr. Hall very properly remarked, that this point is not very easily settled, because we are not positively to infer that the play of the lungs has entirely ceased, although we cannot appreciate it; there may still occur a slight diaphragmatic breathing. In judging of the temperature of an animal in a state of hybernation, the greatest caution is requisite, to avoid all disturbance of it, as the least motion will sometimes induce respiration, and the consequent evolution of animal heat. Dr. Hall details the results of 32 observations; in 29, the temperature of the animal was precisely the same as that of the atmosphere; and in the other three, it exceeded the latter only by half a degree: we may therefore assume, as an established fact, that the heat of animals, during hybernation, follows that of the atmosphere. It is singular to observe the very rapid elevation of the heat, when there is the slightest restlessness of the animal: a change from 48°, to 80° or 90°, is often observable in the course of an hour. Dr. Hall considers that Dr. Edwards has fallen into a great mistake, when he compares the young of those animals which are born blind, and which, he discovered, were less capable of resisting cold than the young of other animals (vide Review of Dr. Edwards' Researches, in our last number) to the hybernating animals. Under no circumstances do the former possess the power of evolving sufficient heat to maintain their requisite temperature; whereas the latter, when in a state of activity, preserve a uniformly

elevated temperature: it is only when the animal is disposed to sleep, whether ordinary or hybernating, that the temperature begins to sink. The last proof of the almost total cessation of breathing during hybernation, is the capability of the animal to live for a considerable period in noxious gases, and even under water. Spallanzani narrates an experiment, in which he confined a marmot and a bat for four hours in carbonic acid gas, and yet they lived. Dr. Hall immersed a hedgehog and a bat in water of 41°; the former was kept 22 minutes, the latter 16 minutes, under the surface without any injury to them. Now these animals, when active, are as speedily asphyxiated by drowning as any other of the mammalia; at least, such seems to be the case, according to Dr. Hall's experiments, in which he found that a hedgehog was killed in three minutes, from the time of immersion. Our author, therefore differs from Sir A. Carlisle, and Dr. Edwards, when they assert that "animals of the class mammalia, which hybernate, have at all times a power of subsisting under a confined respiration, which would destroy other animals not having *this peculiar habit.*"

2. *Of the Irritability during Hybernation.*—The very circumstance of the animal's living when deprived of atmospheric air, is an argument that their irritability or tenacity of life must be much increased; and this is powerfully confirmed, by finding that the heart continues to beat regularly for at least 10 hours, after decapitation and the destruction of the spinal marrow. A comparative experiment was performed on a hedgehog in its active condition; the spinal marrow was simply divided at the occiput. The beat of the right ventricle continued upwards of two hours—that of the left one ceased almost immediately; the left auricle was motionless in less than a quarter of an hour, and the right auricle had ceased to beat long before the right ventricle. It has been often asserted that the contractility of the voluntary muscles is impaired during hybernation; this, Dr. Hall says, is quite erroneous, and the mistake has arisen from authors confounding the lethargy of hybernation, with the torpor which is induced by extreme cold. We have only suddenly to arouse a bat or a hedgehog from their hybernating state, and we shall find that the former speedily flies about with great activity, and the latter walks about and does not stagger. In short, the phenomena observed are similar to those of awaking from ordinary sleep.

3. *Of the Sensibility.* Dr. Hall states that all preceding authors have committed a great error, in supposing that the sensibility of animals during hybernation is diminished; in truth, it is quite as perfect as in ordinary sleep; the slightest touch of one of the prickles of a hedgehog is sufficient to arouse it; and the gentlest shake causes a bat to respire. The sensorial functions are, indeed, nearly suspended; if a hedgehog, in its active state, be thrown into water, it immediately uncoils itself betakes to swimming—in the hybernating state, on the other hand, no fear appears to be excited, and the animal would probably remain still and quiet for a very considerable period, if its sensibility were not acted upon by the contact of the water.

4. *Of the Circulation.* Dr. Hall, by a nicely-contrived experiment, was enabled to examine the circulation in the wing of the bat, in its state of hybernation; he found that, although the animal did not perceptibly breathe, the circulation continued uninterruptedly; the number of pulsations in the minute was about 28°. All the blood is venous, and the curious fact is, that the left side of the heart, and also the arterial system, are now veno-contractile. This phenomenon is one of the most remarkable in physiology; it accounts for the life of the animal being independent of respiration, and is, in short, the key to the right explanation of the susceptibility of some animals taking on the hybernating state, and of the insusceptibility of the greater number.

5. *Of the Digestion.* The bat does not

shew any disposition to awake for the purpose of taking food during its continued hybernation; neither are any excretions passed. External warmth, or any excitement, is the only stimulus which arouses it. On the other hand, the hedgehog, if the temperature be about 40° or 45°, awakes every two, three, or four days to take food, and it then returns to its state of lethargy; under similar circumstances, the dormouse awakes daily. Hunger is, therefore, probably the stimulus which induces the animal to awake at intervals.

Having now considered the condition of the leading vital functions during hybernation, we can be at no loss to perceive the marked difference between this state, and that of torpor from extreme cold. We have seen that the muscles do not become stiffened and incapable of motion—that the nerves are not benumbed and paralysed, and that hybernation is a salutary change, and one conducive to the preservation of life; whereas continued torpor from cold, as is well known, generally proves fatal. Indeed we shall find that, when a hybernating animal is subjected to great cold, without any means of increasing and retaining its warmth, it often remains in a state of activity, while others of the same tribe, which are provided with wool or straw to make a nest for themselves, speedily become lethargic. It is, therefore, moderate, and not extreme cold, which disposes to true hybernation. During the Winter months, they seek some secure retreat for nests or burrows, or congregate in clusters; and, if the season is unusually severe, many are found to perish from the cold. Let these particulars be, therefore, well remembered, in order that we may not, in future, mistake the phenomena of torpor from cold for those of true hybernation. In one respect only do these two states agree, and that is, in the dangerous and often fatal consequences of over-speedy reviviscence; if the respiration of an animal, lethargic from hybernation, be suddenly restored and kept permanently excited, the effect is very often the death of the animal.

Recapitulation. The following conclusions contain the essence of Dr. Hall's observations:—

1. The natural sleep of hybernating animals differs greatly, but only in degree, from the sleep of other animals.

2. This sleep passes insensibly into the state of true hybernation, which becomes more and more profound as the blood loses its arterial qualities.

3. The respiration and evolution of heat are nearly suspended during hybernation.

4. The irritability of the heart and arteries is singularly augmented, so that they become veno-contractile.

5. The sensibility and general muscular motility are unimpaired.

6. The phenomena of true hybernation are very different from those of torpor from cold.

7. Severe cold, like all other causes of pain, rouses the hybernating animal from its lethargy, and, if continued, induces the state of stupor.

8. The phenomena of hybernation are attributable to the susceptibility of the heart and arteries to be stimulated by venous blood, and to the various organs of the body becoming much more irritable than during the state of the ordinary activity of the animal.—*Philosophical Transactions.*

XXXVII.

MARCH OF EPIDEMICS.

SCARLATINA has been prevalent in Great Britain for the last three months, and in Paris for the last six months, as may be seen by referring to our reports from the clinique of M. Bouillaud. On perusing a late number of a German periodical, we find that scarlet fever appeared sporadically in May, 1831, at Konigsberg, and epidemically in December of the same year; it continued till April or May of 1832, when it totally ceased. We shall extract a few particulars on some of the leading features of the disease, as observed in Germany. In some cases there was no eruption, although the other symptoms, such

as cynanche, the scarlet-fever tongue, desquamation of the cuticle, and consecutive dropsy were present; moreover, they occurred generally in houses where the eruptive disease actually existed at the same time. In a family of three daughters, the middle-aged one was seized with cynanche maligna, accompanied with typhus fever; the eldest with mild angina tonsillaris, and the youngest, an infant 14 months old, with purging and feverishness. No sooner had they recovered from these ailments, than the youngest had dropsy, the middle one had otorrhœa, and the eldest violent convulsions. Now in none of these cases was there any appearance of exanthema or of desquamation; whereas, in another set of patients, the latter symptom, and also anasarca, followed attacks of "cynanche sine eruptione." The size of the scales thrown off during convalescence, was remarked to be generally in proportion to the darkness of the hue of the preceding eruption; where this has been purplish-red, the scales were large—where it had been pale and indistinct, they were small and furfuraceous. Swelling of the parotid glands, during the eruptive stage, was found to be an unfavourable symptom, as cerebral symptoms often attended it, and deep-seated ulceration followed in many cases.

The fever was generally the ordinary synochus; but sometimes a most violent form of synocha, with a great tendency to inflammatory congestion of the head. The treatment of this later fever required the utmost skill and exertion, because the transition from active phlogosis to typhoid depression was frequently very sudden and rapid, so that, while leeches and cold applications to the head were in use, it was necessary to exhibit stimulants inwardly.—*Medicinishe Zeitung.*

XXXVIII.

RADIX CAINCÆ.

THIS Brazilian root has been highly lauded by some authors, especially by François (Journ. Générale de Médécine, Mai, 1830), as a diuretic and a sedative. The experiments lately instituted by Dr. Wolff, at Vienna, do not at all warrant the praises; in his practice, its effects were very analogous to those of the helleborus niger, exciting nausea, vomiting, purging, and only sometimes diuresis.—*Ibid.*

XXXIX.

ADHESION OF THE WHOLE PERICARDIUM TO THE HEART.

F. F. aged 26, was admitted into one of the Berlin hospitalsunder the care of Dr. Wolff. His symptoms, which had existed with varying severity for the previous six months, were a stitch in the præcordial region, palpitation and dyspnœa, amounting frequently to complete orthopnœa; his sleep was disturbed by sudden startings; he had a cough, with but little mucous expectoration; his urine was sparing in quantity, and of rather a brown colour. The complexion of the face was sometimes faintly livid. On attentively examining the region of the heart, it was found that its pulsations were so feeble, as not to be readily felt with the hand, and that, under the stethoscope, irregular, weak, and undulatory movements were perceived. The pulse was irregular, small, contracted, and frequent; no appearance was visible of any starting or pushing forward of the diaphragm, or of dragging inward of the lower ribs on the left side, synchronously with the diastole or systole of the heart. The case was supposed to be one of hydrops pericardii. After a very small bleeding, the infusion of digitalis, combined with nitre, was given with the most gratifying results, the patient being speedily able to lie and to sleep in the horizontal posture; but, unfortunately, the drug began to exert its narcotic and poisonous effects, and required to be discontinued. No sooner was this done, than the symptoms, in all their aggravation, returned, and the patient died in a few weeks.

Dissection. The lungs and cavities of the pleuræ healthy. The pericardium was found to be so closely adherent in all its extent to the heart, as to be separable from it only by the scalpel; the agglutination was firm and ligamentous; there was no appearance of any intermediate membrane, or of bands passing between the two surfaces, for, strictly speaking, there was but one membrane, or in the language of the older pathologists, the pericardium was awanting.

Remarks. The symptoms deemed by Kreysig as characteristic of this disease, viz. the movement forward of the diaphragm and the pulling inward of the left lower ribs synchronously with the alternate actions of the heart, are unsatisfactory and incorrect. Corvisart says that the absence of any strong palpitations, while the other signs of diseased heart exist, may lead one to suspect adhesion of the pericardium.—*Ib.*

XL.

CASES OF INSANITY, WITH POST-MORTEM APPEARANCES, By Dr. MACROBIN, Aberdeen Lunatic Asylum.

WE have selected the following cases from the reports transmitted to us by Dr. Macrobin, and regret that we have been unable to insert the others.—ED.

Case 1. Margaret Panton, æt. 70, from Aberdeen. Admitted 1808.

Sectio Cadaveris, 21st Feb. 1832, 12 *Hours after Death.*—The calvarium was thin, and its removal was effected with difficulty, in consequence of the very firm adhesion of the dura mater to the inner table, especially along the line of the longitudinal sinus, where the membrane was thickened and vascular; some patches of the membrane were left adhering to the occipital bone. A laceration, which had been produced in effecting this removal, allowed the escape of between four and five ounces of limpid, colourless serum, which had been deposited between the dura mater and arachnoid, and which lay over the surface of the right hemisphere of the brain; the dura mater was accordingly discerned collapsed, and thrown into folds. Upon reflecting this membrane (which otherwise presented a natural appearance), the whole cerebral substance composing the right hemisphere was discovered greatly compressed, and greatly diminished in bulk.

The convolutions were flattened and pressed together, and over a space of an inch and a half to two inches in diameter, and immediately above the lateral ventricle, they (the convolutions) had entirely disappeared, apparently from absorption, leaving an irregular oval-shaped depression, the base of which consisted of the corpus callosum, the white colour of which was visible under the arachnoid and pia mater, which lined this depression, and which were much thickened, so that a layer of medullary substance, of three or four lines in thickness only, existed between the convex surface of the brain and the right lateral ventricle. There was another similar, but smaller depression or cavity on the surface of the anterior lobe of same hemisphere. In connexion with these appearances, the whole of the cerebral substance had undergone great compression from the presence of the fluid; the whole hemisphere having suffered a diminution to the extent of at least one-third of its ordinary bulk, and being sunk much below the level of the opposite hemisphere. There was no appearance of increased vascularity of the pia mater, and the substance of the brain generally presented a natural consistency and colour, with the exception of some venous congestion, the number of dark bloody points being very numerous.

There was no fluid over the left hemisphere, nor more than usual in either ventricle. Both choroid plexuses were turgid and hydatiform. The apex of the upper lobe of the left lung was tubercular, and the lower lobe of same lung more solid than natural, being without crepitus, and greatly infiltrated with serous fluid; and

there were some traces of recent lymph, causing adhesion between the pleura costalis et pulmonalis. The right lung quite healthy. No disease of the heart or arteries, there being not the least tendency to ossification in them, or any other structure of the body.

Abdominal viscera sound.

The subject of the above appearances, a female in the lower ranks of life, had been confined to the Lunatic Asylum for upwards of 20 years. She had completely lost the use of the left upper extremity, which was quite rigid and bent, from contraction of the flexor muscles of the forearm and fingers. It is understood that she suffered some febrile attack (a "fever" the friends called it) about puberty, which recurred repeatedly, and which at length affected her mental faculties, and that the paralytic affection of the arm occurred about the same time; but little of the history can be relied upon previous to her admission in 1808, since which time she had continued to enjoy pretty good general health. Her insanity was marked by various hallucinations and illusions of the external senses, those of sight, hearing, and common sensation being perverted.

Her memory had also suffered, her memory of events since her attack being quite abolished, though she had a lively recollection of all the circumstances of her life previous to this. She was very loquacious, and highly irritable and ill-natured. The natural functions were performed in health to the last.

Case. 2. David Bruce, æt. 47, from Aberdeenshire. Admitted 1st August, 1831.

Sectio Cadaveris, 16 *Hours after Death. 4th March*, 1832. *Head.* At the anterior part of the middle lobe of the right hemisphere, there was observed a space of about an inch square of the cortical substance in the state of distinct ramollissement, being diffluent and broken down, and converted into an ochre-coloured pulp, and which had stained the dura mater which covered it of a bright yellow, the proper membranes of the brain having been removed at this point by the morbid process. A similar change was observed to be going forward, to a smaller extent, on the convolutions of the anterior lobe. This softening and disorganization was best marked on the surface of the convolutions, diminishing in intensity as it extended inwards, and did not penetrate to the medullary substance.

The arachnoid, over the whole convex surface of the brain, and over the anterior as well as posterior lobes, was greatly thickened, and the pia mater was very vascular, which vascularity extended between the convolutions, and the membrane admitted of being easily removed.

The same membranes covering the base of the brain were not thickened. There was only slight effusion of serum over the surfaces and into the ventricles of the brain, not exceeding ℥ss. in the latter situation.

The subject of the above appearances was a labourer, and had led a sober and industrious life; and, previous to May last (1831,) had exhibited no indications of mental disturbance nor morbid train of thought, though his bodily health had somewhat declined: but for two or three weeks previous to the accession of the maniacal paroxysm (which happened about the middle of May,) he had began to exhibit a change of temper and disposition, being one time gloomy and melancholy, and at another irritable and excited. He continued to labour upwards of two months under violont maniacal delirium, when fatuity supervened, and it was then that he was brought to the asylum (1st Aug. last.)

He was then unable to answer questions; though at times, if the question was repeated, and his attention roused by the speaker, he would seem to comprehend what had been said, for he would labour to give utterance to some words in reply, and probably, after the lapse of a minute, some answer might be obtained, while the words, which seldom amounted to three or four, were uttered slowly and with hesitation, and apparently with difficulty.

His aspect was very vague, and led to the impression that, in general, he did not comprehend what was addressed to him. His memory seemed to be nearly abolished. The pulse was feeble, and slower than natural. He was unwilling to move from

his seat, or from the spot where he might be standing; and when he walked his gait was unsteady, and latterly he could not walk without staggering.

The appetite and the other natural functions, though pretty regular and healthy, were disregarded by the patient, and, unless when fed, he would never take food, nor even ask, or make signs that he wanted it. Once or twice during this state of fatuity, he exhibited some return of excitement, which was marked by singing, vociferating, and dancing, or rather whirling about.

He died 3d March, under appearances of much debility and emaciation.

Remarks. Some of these cases, as that of Hunter, Bruce, and Panton (with those of Simpson, Keith, Dawson, and Robertson, formerly reported), were to all appearance connected with inflammation of the membranes, as marked by the train of symptoms, and the morbid appearances ascribed by M. Bayle to chronic inflammation of the arachnoid and pia mater in his work on the Diseases of the Brain and its Membranes; and from whose researches we have pretty good evidence, that there is a considerable proportion of cases of insanity, (whether monomania or mania, seems to be a circumstance little connected with the *pathological characters*) arising from a state of increased action in the vessels of the arachnoid and pia mater.

I have at present several recent cases of insanity, where the physical symptoms leave little doubt of such a state being the cause of the mental aberration, while I have still a greater number where no such symptoms exist, but in which we find *nervous* excitement, without *vascular* excitement, the pulse every where being feeble, while any cerebral spmptoms which may be complained of are only occasional, as vertigo, noises in the head, temporary headaches, &c. and generally much relieved on assuming the recumbent posture. This is more particularly the case with females, and those who have hereditary predisposition to insanity. The true pathology of such cases seems to be as little ascertained as that of many cases of hysteria, with which insanity is so frequently associated in the female constitution, and which seem to depend, in common with other affections of the nervous system, on a peculiar condition of the nervous organization, which, if influenced by particular states of its system of bloodvessels, as a necessary antecedent to disorder of its functions, is at least influenced by states of the vascular system, which, in most instances escape our observation both during life and upon examination after death, and are certainly little, if at all allied to true inflammation. No doubt other diseases affecting the nervous system, as apoplexy and palsy, may be observed accompanied with a cold, pallid surface, weak pulse, &c. and that, when dissection will discover most indubitable signs of a previous state of vascular excitement; and it might probably, therefore, be alleged that the stage of excitement, in cases of insanity, had existed, though it had passed unnoticed, or that such might exist locally, and without materially affecting the general system. But if we have no characteristic *local* symptoms, and, in the absence of them, are not to judge of the nature of morbid actions by such *general* symptoms as may be present, and are to allow no weight to evidence derived from the obvious effects of remedial agents, and the absence of inflammatory injection or its proceeds, on inspection after death, then by what other means are we to arrive at probable conclusions, in regard to the nature of certain pathological causes? Do not most chronic inflammations of important organs betray, when accurately investigated, some degree of febrile action, and other appropriate symptoms?

The cases just alluded to do not improve under any system of depletion, but are most benefited by proper moral and mental discipline, along with a due attention to the state of the natural functions, but, unfortunately, remain benefited only so long as the application of such means can be

enforced, since, from the predisposition—the great susceptibility to every passing impression, moral and physical, and the little resolution which such individuals are capable of exerting, we find them constantly returning to a state of mental aberration, and presenting a life spent between intervals of sound mind and healthy actions, and the feelings and the actions of insanity.

The former class of cases again requires a steady perseverance in antiphlogistic measures, limited, however, in general, to local depletion, and such other means, as do not depress too much the strength of the general system.

29th March, 1832.

XLI.

Aneurism by Anastomosis.

Dr. Macfarlane in his Clinical Reports makes the following remarks on the subject of nævus, and relates three cases not devoid of interest.

"That species of aneurism by anastomosis to which the appellation of nævus is applied, is a disease now often met with in children. During my attendance at the Infirmary, I have seen above thirty cases, the majority of which were treated as out-patients, and have had opportunities of comparing the merits of the different plans of cure which have at various times been adopted. In shortly noticing the size and other external characters of these tumours, I was careful also to preserve a description of their exact situation; and I find, in reference to this point, that more than two-thirds of them were confined to the anterior aspect of the body, and that considerably more than a half were situated on the head and face. All of these, except one, were observed at birth,—grew with greater or less rapidity, and varied in extent from about a quarter of an inch to fully three inches in diameter. They all projected more or less beyond the level of the surrounding parts: and, in a few cases, ulceration of the thin integuments with which they were covered took place, giving rise to troublesome hæmorrhage. In three of these there was gradually projected from the ulcerated surface a fungous tumour, which rapidly increased, assumed a pyriform shape, bled on the slightest touch, and appeared to possess all the characters of the original disease. When ulceration does not take place, then the superjacent skin, by the morbid enlargement of the subcutaneous vessels, is gradually and unequally elevated; but it is seldom that the diseased mass extends more than an inch beyond the level of the adjoining healthy parts. I have seen two cases, however, in which the disease did not increase in breadth, but continued to project, while the integuments were entire, so as to form livid and pendulous tumours."

Case 1. *Aneurism by Anastomosis—Ligatures—Convulsions.*

A child, nine months old, had a tumour, about the size of a grape, over the anterior superior angle of the left parietal bone, which had all the characters of aneurism by anastomosis. A needle, armed with a double ligature, was passed under its base, and each half of the swelling was tightly tied, so as to cut off its supply of blood. The child was teething: it cried bitterly, and was fretful and uneasy for several hours. During the following night it had an attack of convulsions, which continued for fifteen minutes, and returned with undiminished violence after an interval of two hours. The ligature was immediately removed, and the convulsions ceased. In four days the tumour sloughed, and a cure was speedily accomplished.

Case 2. *Aneurism by Anastomosis cured by temporary Ligature.*

Dr. Macfarlane was induced by the circumstances of the preceding case to leave the ligature only for a short period in another instance.

A child, 8 months old, was brought to the Infirmary to have a pyriform tumour

removed from the edge of the under lip. It was, when observed at birth, about the size of a split pea, of a livid colour, and on a level with the surrounding integuments. It remained stationary for the first three months, after which time it began to increase rapidly, and to project in a pendulous form. The integuments were entire: the apex of the tumour, which was about the size of a walnut, was irregular and doughy; whilst the neck, which was not larger than a quill, was hard and smooth, and the pulsations of its vessels were distinctly perceptible. A broad ligature of tape was firmly applied, close to the base of the tumour, and removed in 24 hours. With the use of cold this temporary ligature was perfectly successful, the tumour sphacelating, and the lip cicatrizing.

We apprehend that this practice is more likely to succeed in cases like the preceding, where there is a narrow and distinct pedicle, than in others where the origin of the tumour is more diffused. It is sometimes difficult to include the whole of the disease by the ligature applied in the most efficient manner. Indeed, Dr. Macfarlane's third case is one in point.

CASE. 3. *Aneurism by Anastomosis—incomplete Ligature.*

W. H. aged seven months, had a soft, unequal, purple-coloured tumour, about the size of half-a-crown, on the anterior surface of the left arm, two inches above the elbow-joint. It was elevated a little above the surrounding parts; and when firmly compressed, an obscure thrilling or slightly pulsatory sensation was perceptible. It was tied with a double ligature, as in the last case, and in six days the tumour separated. The exposed surface, which had at first a sloughy appearance, soon became clean and florid; and, except a small spot in the centre, it was evident that the diseased structure was completely destroyed. Here, however, a large spongy tumour formed, which was of a dark colour, and bled profusely. Pressure by means of a compress and bandage, the free application of nitric acid, caustic, &c., were ineffectual in checking its progress. The actual cautery was at length had recourse to; and by four applications of it, the morbid growth was destroyed, and a cure accomplished.

Whatever is capable of exciting inflammation in these vascular tumours, and of producing either ulceration or consolidation of their loose texture by the effusion of lymph, may put a stop to their progress, and ultimately lead to a cure. For this purpose I have used vaccination with success in five cases; and in one case, where the disease extended over the whole surface of the lower eye-lid, and where neither the ligature nor the knife could be employed without producing deformity, I succeeded in exciting inflammation of the tumour, by introducing a seton close to its base, and retaining it till partial suppuration was established. In another case, where the disease was confined to the inside of the lower lip, the seton proved unsuccessful, and ligatures had to be employed.

There can be no question that the ligature, when applicable, is the least tedious and the most certain method of removing nævi. Next to the ligature probably comes excision. Vaccination we have tried, and seen tried without success. It is a pretty rather than an useful plan of treatment, at least we have found it such. We have not ourselves seen any bad consequences from the operation. Erysipelas followed in one child, but it did well.

XLII.

INJURIES OF THE HEAD.

"WHEN a large quantity of blood is effused under the scalp, its evacation by incision is seldom required, unless for the purpose of ascertaining the state of the bone, and that only when symptoms of compressed brain exist. The extravasated blood will be slowly absorbed, and the detached scalp regain its former connexions, while the removal of the fluid by puncturing the tumour, will not unfre-

quently give rise to troublesome and extensive suppuration."*

Nothing can be more true than this observation. Most surgeons must witness cases of fluctuating tumour of the scalp after injury. For the most part there is little or no pain, nor any fever. But fever may be accidentally present, and from certain circumstances there may be some tenderness. The surgeon is then induced to puncture the swelling, fluid blood issues, and a troublesome suppuration in the cavity ensues. We have seen this mistake made with this result. If the fluid collection of blood be small, it is well known how much it may simulate a depression of the bone. Blood is injected and coagulates in the surrounding cellular membrane, and the yielding fluid portion counterfeits depression. This mistake also is not uncommon. We know not whether fluctuating tumour of the scalp, apparently from blood effused, be common in newly-born children, but we have seen one instance of this description. The infant was one or two months old, the fluctuating tumour as large as an apple, and situated over the pariental bone; there was no pain, no cerebral disturbance. The labour had been difficult. But we will give Dr. Macfarlane's case.

CASE 1. *Concussion—Effusion under the Scalp—Cure.*

A stout labourer, thirty-eight years of age, was struck on the left side of the head by a brick, which fell from a considerable height. He lay in a state of stupor for nearly an hour, when his sensibility was gradually restored; and in a short time longer he was able to return distinct answers to the questions put to him. He complained of vertigo, headach, and nausea, which were removed by venesection, and smart purging. On examining his head, the scalp was found distended by fluid blood. The swelling, which appeared to be covered by the tendon of the occipito frontalis muscle, commenced at the injured part where the integuments were not wounded, and gradually extended from the left to the right side of the head, and from the superciliary ridges to near the foramen magnum of the occipital bone. By the use of a strong lotion, composed of the murias ammoniæ and vinegar, this extensive effusion of blood was slowly absorbed, and without the occurrence of a single unfavourable symptom, the parts were restored to their former state in less than a month.

Dr. Macfarlane relates two cases of concussion, both of which were cured. In the first there was probably some extravasation, as the symptoms of concussion did not soon pass away, and on the day after the injury there was slight stertor. The symptoms did not disappear in less than a fortnight, though very active antiphlogistic treatment was employed. Dr. Macfarlane remarks that the symptoms of concussion often run so gradually and insensibly into those of inflammation that it is difficult to pronounce upon the boundary between them. This is true. There is, however, one good practical rule—to sin on the side of depletion. If the symptoms do not subside in a reasonable time, it is probable that either extravasation of blood or inflammatory action is present. Inflammation never proceeds to any extent without fever—a frequent pulse, skin more or less warm, secretions more or less altered. This is the grand diagnostic mark of inflammation, and one that can seldom deceive.

Dr. Macfarlane observes, that bleeding from the ear is oftener met with in fractures of the base of the cranium, than in simple concussion of the brain. Out of four cases of concussion in which this symptom was present, and witnessed by Dr. Macfarlane, two proved fatal, and on inspection neither fractures nor laceration of the lateral or cavernous sinuses could be detected. Dr. M. considers, therefore, that both venous and arterial blood may be discharged from the ears as from the nose by laceration of its own blood-vessels.

* Dr. Macfarlane's Reports.

All who have seen many cases of injury of the head, will corroborate Dr. Macfarlane's view of the subject.

CASE. *Concussion followed by Symptoms of Compression.*

"W. B., æt. 50, was admitted on the 31st of January, 1832, having received several severe blows on his head ten days before, which produced immediate insensibility, vomiting, and bleeding from the left ear. He lay in this state for several hours, and then recovered so far as to be able to answer questions, though rather incoherently. In a short time, however, the stupor began again to increase, and, on his admission, the existence of partial compression was distinctly marked. He was dull and drowsy, and when asleep his respiration was stertorous. It was only after shaking him, and speaking to him with a loud voice, that he could be induced to open his eyes, which had a vacant expression, the pupils being dilated and torpid. For the first two days no answer could be obtained to any question that was put to him, but after the repeated application of leeches and blisters to the head and neck, and the use of purgatives, he became more sensible, his pulse rose from fifty-two to eighty in the minute, but he was still incoherent. Calomel was given as an absorbefacient. When the gums were affected, the improvement became more decided, and, in ten days from his admission, the symptoms of compression had altogether disappeared. His mind, however, continued imbecile; his memory was much impaired; he could not recollect the names of his children, or of any of the objects around him with which he was most familiar, and he complained of deafness, headach, and vertigo. When dismissed on the 18th of February, his memory was partially restored, but a degree of fatuity still remained."

Dr. Macfarlane observes, with reference to the preceding case, that the symptoms which developed themselves subsequently to the subsidence of the primary symptoms of concussion, depended in all probability on extravasation of blood. For, as he remarks, it does not necessarily follow that when a small portion of the brain is lacerated, the hæmorrhage should be immediate. The collapse produced by the injury may prevent the flow of blood from the divided vessels at the time, and they do not bleed until reaction is established. Be this as it may, nothing is more common than to observe the symptoms of concussion to diminish, and symptoms of compression to come on, unattended with any evidence of inflammatory action. If, indeed, the extravasation is extensive, there is usually no pause, the symptoms of concussion being mixed in the first instance with those of compression, or merging indistinguishably into them.

It is not unfrequently said, and in works on surgery it may be seen, that patients may die from concussion alone. We must confess that we are very sceptical on this point, and whilst we are well aware that the thing does occasionally occur, we believe that the occurrence is extremely rare. That patients die without ever rallying from the state of collapse is most true, but in all the cases of this description that we have witnessed, there was more or less destruction of the organization of the brain, or effusion of blood, or other destruction of parts.

Dr. Macfarlane has met with three fatal cases of concussion attended with laceration of the brain, the laceration corresponding in none to the part of the skull on which the blow was inflicted. These injuries were confined to the upper and under surfaces of the cerebrum, and to the central commissure; the effusion of blood was considerable, and in one of the cases it was injected into the substance of the brain to some distance around the injured part.

Dr. Macfarlane thinks that secondary hæmorrhage may occur in the brain as elsewhere, and details a case in which he believes that it occurred. He is more confirmed in his opinion from the circumstance of a very similar case having been

related by Mr. Brodie, in his excellent paper in the Medico-Chirurgical Transactions, a paper of which a full analysis was given in this Journal.

CASE.—*Death apparently from Secondary Hæmorrhage.*

F. C. æt. 35, fell, Jan. 1, 1827, from a considerable height upon his head, and was carried home insensible. In three hours he had so far recovered as to be able to answer questions, but he lay for several days in a state of drowsiness, from which, however, he could be easily roused. On the 8th he was admitted into the Infirmary. His pulse was sixty-five and feeble; his eyelids were half shut, and the pupils slightly dilated; but his respiration was natural and free from stertor. No wound of the scalp or fracture of the skull could be discovered.

On the 9th, he had three severe attacks of convulsions, the last of which was followed by immediate and complete insensibility; his pulse sunk to fifty in the minute: his breathing became laborious; his pupils dilated and immoveable; and his urine and fæces were passed involuntary. He died on the 11th.

On inspection, a considerable portion of the dura mater was found detached from the cranium. Two lacerations of the substance of the brain were discovered, both being situated on the upper surface of the anterior lobes. That on the left side was covered by a firm coagulum, about the size of a walnut; while, from the right, nearly three ounces of blood was extravasated, and spread over the surface of the hemisphere. This blood was fluid, and had every appearance of having been recently effused.

"The coagulum on the left side was probably formed soon after the injury, any farther hæmorrage having been prevented at the time by the free blood-letting, and other depletory measures which were employed. On the 9th day from the period when the injury was inflicted, an increased determination of blood to the head took place, which was occasioned by the attacks of convulsions, and a renewal of the hæmorrhage was the consequence. The effused blood extended over the right hemisphere, and to this occurrence the sudden coma and death of the patient were to be ascribed."

This case is very illustrative of Mr. Brodie's opinions. That able practical surgeon is inclined to believe, from the cases which he has witnessed, that convulsions is produced by slight extravasation, or other source of pressure, coma, stertor, &c. by a more extensive or powerful compression. It was evident from the symptoms of the patient until the last attack of convulsions, that there was some source of pressure or of irritation. The small coagulum on the left side was this source. The convulsions thus occasioned were the cause of the larger and fatal extravasation, which fully deserves to be considered a secondary hæmorrhage.

Dr. Macfarlane relates a case of secondary suppuration on the surface of the brain after injury of the head. There is nothing in the case to distinguish it from the many of a similar character that have been published. The rigor occurred on the 15th day, and the patient died on the 19th. She was not trephined. The injury was fracture of the cranium without depression. Pus was found on the anterior lobe of the left hemisphere of the cerebrum, and also between the cerebrum and cerebellum.

We notice the succeeding case more at length, because it involves a contested principle, that of trephining or not trephining in cases of compound fracture of the cranium, independently of the existence of symptoms of disturbance of the brain.

R. A. æt. forty, admitted February 1st, 1832, at 6 P.M. having on the preceding evening, at ten o'clock, been assaulted by two men, when he received several blows on his head with a bludgeon. He was stunned for a short time, but soon recovered so far as to be able to walk home. In the course of an hour he vomited two English pints of blood, after which he was said to have become drowsy. At the time of his admission into the Infirmary, he was perfectly collected, but irritable and peevish, and complained of intense pain in the head. The eye was suffused; the pupil variable; the pulse sixty, and of good strength. On the forehead, about an inch and a quarter

above the middle of the left supra-orbital ridge, there was a lacerated wound, through which a portion of the frontal bone, about an inch in diameter, was observed to be fractured, and slightly depressed. He was immediately bled to twenty-four ounces; and on visiting him at nine, P.M., about three hours after his admission, Dr. M. found that his pulse had risen to eighty, and that he had a slight rigor. The depressed bone was firmly fixed, but at one point the pulsatory motion of the fluid blood, which filled up the fissure, showed that the fracture extended through both tables of the scull. On enlarging the wound by a crucial incision, and dissecting back the flaps, Dr. M. raised up the depressed bone with the elevator, and removed it in five separate pieces, along with a small coagulum. From the oozing of blood, the small size of the opening in the cranium, and the restless state of the patient, who was secured with some difficulty, it was impossible to ascertain whether the dura mater was injured or not. The edges of the wound were retained in contact by a suture, and the usual dressings, with a double-headed roller, applied. A bladder containing a refrigerative mixture was applied to the head, and a purgative exhibited. For the first nine days, the most active antiphlogistic measures were employed. Besides smart purging, nauseating doses of emetic tartar, &c., one hundred and twelve ounces of blood were detracted by venesection. On the 14th, an abscess burst in the left ear, after which no unfavourable symptoms occurred. The wound healed slowly, the pulsations of the brain became gradually more obscure, and he was dismissed, cured, on the 19th of March.

"In such a case," says Dr. M. "nearly all the surgical authorities of the present day condemn the practice of applying the trephine, and removing a sound portion of the cranium, that the depression may be elevated, unless symptoms of compressed brain exist. They approve of the removal of such loose and detached splinters as can be readily laid hold of by the forceps, or raised by the elevator: but until symptoms of compression appear, either from the effusion of blood, or the occurrence of suppuration, they are, with one or two exceptions, unanimous in condemning the trephine. On the contrary, Pott recommends that the cranium be perforated, and the depressed bone elevated, not with the view of removing existing symptoms, but as a preventive of ill consequences. Sir A. Cooper, and Mr. Brodie, appear less hostilely opposed to this practice, than the rest of their contemporaries. The former gentleman says, 'I generally use an elevator to raise the depressed bone, but *rarely* apply the trephine;' whilst Mr. Brodie is of opinion, that, when the depression is slight, and the symptoms trifling, the trephine should be applied only when the injured bone is exposed, in consequence of a wound in the scalp. Considerable diversity of opinion also exists as to the cause of the suppuration, which so frequently occurs in the neighbourhood of a fractured and partially-depressed bone. The majority assert that this suppuration does not arise from the depressed bone, but from the violence inflicted on the brain by the original injury; and that, of course, the application of the trephine cannot prevent the formation of the pus, but, on the contrary, by the additional injury which it produces, the inflammatory mischief will be greatly aggravated: they have recourse, therefore, to active antiphlogistic treatment, which they maintain is generally successful in warding off the impending danger; and assert that the trephine ought not to be applied, till, from the accumulation of matter, unequivocal symptoms of compressed brain manifest themselves. To wait for this occurrence, is to delay till the chances of success from surgical interference are almost hopeless. We have no means of ascertaining the exact situation of the purulent collection, or whether it lies above or below the dura mater; and we shall often fail in evacuating it, even after the trephine has been employed. I have seen it spread over an entire hemisphere; and when it is so situated, and so extensive, the disorganization of the brain, resulting from its accumulation and diffusion, will frequently lead to a fatal result, even although it should be evacuated by an operation: but this cannot be accomplished when it is collected under the pia mater, a situation in which Sir Astley Cooper states that it will be ge-

nerally met with. It does therefore appear, that if we can, by a cautious use of the trephine, remove the fractured and depressed bone, soon after the injury has been inflicted, we shall succeed in relieving the brain from a source of dangerous irritation, and be enabled more effectually to combat the inflammation, and ward off the suppuration, which so frequently ensue; and that, upon the whole, the result will be more fortunate than were the operation deferred till suppuration had commenced, and symptoms of compression were present. I have seen, during the last six years, five cases of compound fracture of the skull, with partial depression, treated in the infirmary, according to the Abernethian plan, but unsuccessfully. There existed at first no symptoms of compressed brain; it was therefore considered imprudent to have recourse to the trephine, the usual antiphlogistic means being alone trusted to. In from six to fourteen days, a rigor took place, followed by headach, drowsiness, and stupor, until at length stertorous breathing, slow pulse, dilated pupil, coma and death, supervened. In two of these cases, the trephine was applied, and a small quantity of pus, collected exterior to the dura mater, was evacuated, but without the slightest relief to the compressed brain. On dissection, the greater part of this fluid was discovered between the dura and pia mater, and between the pia mater and brain; and in these two, as well as in the other fatal cases from suppuration, the inner table of the skull was more extensively fractured than the outer one, and an irregular portion of it thrust down on the brain. Finding that these unfavourable results are of such frequent occurrence, when the operation is deferred till suppuration is established, I have been long of opinion with Mr. Brodie, that, in compound fracture of the cranium, the early removal of the depressed portion of bone by the trephine, when it cannot be accomplished by the elevator, is the safest, and likely to become the most efficient practice. I have only had an opportunity of trying it in one case, and in this the result was successful."

Thus it will be seen that Dr. Macfarlane agrees with Sir Astley Cooper and Mr. Brodie in thinking immediate elevation advisable in cases of compound fracture of the cranium, attended with depression.

XLIII.

Mr. Middlemore on the Purulent Ophthalmia of Infants.

There is a sensible paper on the Ophthalmia Neonatorum in our valued contemporary, the Medical Gazette. We shall notice some of Mr. Middlemore's remarks on the causes and treatment of the disease. With respect to the first, Mr. Middlemore appears satisfied that it is always to be found in morbid vaginal discharges of the mother, there being at the same time some defect in the children themselves, or in the management of them, predisposing them to the disease, or aggravating it when present. Those morbid vaginal discharges may be gonorrhœal, gleety, or leucorrhœal; in short, they may be various, without corresponding, or at least recognizable, varieties in the character of the induced ophthalmia. This seems to be the pith of Mr. Middlemore's theory of causation.

"Infantile purulent ophthalmia more frequently attacks the progeny of the poor than the offspring of those in better circumstances; it is more common in premature children and twins, and is most obnoxious to those who are weak and delicate in constitution; it is also observed to be very prevalent in Foundling institutions—those, I mean, that receive infants deserted by their parents immediately after birth; whence I infer, that delicacy of constitution, want of cleanliness, defective nursing, and a vitiated and unwholesome atmosphere, are powerfully predisposing causes."

Now leucorrhœal is very common in women of the middling and upper classes, but in their children ophthalmia is very uncommon. This proves, without further argument, that other circumstances are necessary to render the leucorrhœal discharge operative in producing the ophthalmia. Cleanliness and clothing, and pure

air and vigour, are probably the most essential protectors against contamination; but whether differences in the maternal discharge are operative in rendering the infant more or less liable, is a question that we cannot pretend to solve. It certainly does appear, that a person with gleet may or may not communicate gonorrhœa to the female with whom he is connected, and it is also likely that what is termed leucorrhœa, that is a mucous discharge from the vagina, not consequent on venereal infection, will occasionally, but not commonly, infect the male. We are not well acquainted with the laws that regulate the infecting power of vaginal discharges. But let us pass to Mr. Middlemore's method of treatment. It is rather judicious than novel.

In slight cases, an astringent lotion and a dose or two of magnesia will effect a cure. The majority of cases are not so slight, and much depends on obtaining the management of them at an early period. In such a case, at such a period, we may use a solution of alum and a slight aperient. The eye should be washed every half hour, or, if necessary, oftener, with a well made ivory or pewter syringe, the point not too sharp; the extremity is to be placed between the lids, at the outer angle of the eye, and should pass it, for a short distance, almost parallel with the surface of that organ, and not so obliquely as to hurt the eye-ball, or oppose the conjunctiva as an obstruction to the issue of the fluid. The eye is thus to be syringed with a little warm milk and water, after which a weak solution of the sulphate of zinc or alum (gr. iij. ad ℥j.) may be thrown in, and repeated, with the same preliminary washing, every second hour. Mr. M. recommends the nurse to apply a little fresh butter, or sweet oil, or mild ointment, along the tarsal margins, whenever the child is about to sleep, a precaution which renders unnecessary the tedious bathing the lids. This should be combined with a dose of magnesia, or, if the child be jaundiced, as sometimes happens, of hydrargyrus cum cretâ.

The inflammation may be severe, with chemosis, &c. Mr. M. then recommends the application of a leech to the root of the nose, or upper lid of each eye, according to circumstances. Of course great care must be taken to prevent the bleeding from proving too considerable. If the lids are much swollen, with obstructed circulation, and if any vessel be particularly large, it may be opened with a lancet, and the bleeding encouraged by warm water.

If the case has proceeded farther, the cornea having ulcerated or sloughed, the chemosis diminished, and the conjunctiva become comparatively pale, "it would be right to use a solution of the nitrate of silver (two or more grains to the ounce) two or three times a day, the eyes being frequently bathed with zinc lotion. If suppuration of the eye-ball has taken place, the surgeon should not be too tardy in puncturing the cornea, and discharging the contents of the eye-ball.

Mr. Middlemore protests against "the harsh applications" of Dr. Vetch, particularly the undiluted liquor plumbi acetatis. He also thinks that, at the present time, there is an "extraordinary partiality for the early employment of stimulants." He would not wish them used till the proper time, that is, till the acute stage has passed by. Mr. Middlemore cannot coincide with Mr. Guthrie, in using the unguentum argenti nitratis in the earliest stage of the purulent ophthalmia of infants.

As Mr. Middlemore's strictures are levelled against stimulating applications generally, when employed in the early stages of ophthalmia, we may be permitted to make this remark—that at Mr. Guthrie's Ophthalmic Hospital, stimulants are not found to be productive of those mischiefs which their opponents attribute to their employment. For the results of Mr. Guthrie's treatment, we can safely refer to a report from the Ophthalmic Hospital, published in a late number of this Journal. The cases there detailed are satisfactory evidence of the advantages, we put it broadly, the great advantages, of stimulating *early* in certain conjunctival inflammations.

XLIV.

On the Employment of Issues, and of other Drains, in the Prevention and Treatment of Diseases.

The author, M. Chauffard, of Avignon, strongly insists upon the good effects of these means in a variety of morbid affections. Several cases are adduced of their prophylactic and curative efficacy, in strumous and cachectic children; thus, obstinate coughs, headachs, convulsions, hæmoptysis, dyspnœa, have yielded to their use, when every other remedy had failed. We need not say that strict attention must be paid to regimen and dietetics at the same time, although we deem these latter means to be often unavailing by themselves. Fabricius Hildanus and Ambrose Paré state that they had more confidence in issues and setons on the nape of the neck, for the cure of obstinate epilepsy, than in any other measures. "Quo solo, innumeros cerebi mortiferis morbis correptos, ad sanitatem, ulceribus diu fluidis permanentibus, perduxi." Cases not unfrequently occur, where all the symptoms of confirmed, or at least of threatened, phthisis disappear, upon the supervention of a large anal abscess: for example—a soldier, in the second stage of the disease, had cough and purulent expectoration, hectic fever, night sweats, and was greatly wasted in flesh. A large abscess formed in the perineum, broke, and discharged copiously; in time it healed, and two issues were established on the inside of the thighs. The patient quite recovered. [How vexing it is that medical men will not use their ears, and affix to the reports of their cases the ascultatory signs; without these, we are not warranted in drawing any safe conclusions.—Ed.]

"My own experience (says Baumes) induces me to think, that the early stage of consumption is best counteracted by issues, sufficiently multiplied and renewed. Euryphon covered, in some degree, the bodies of his patients with them, and did not expect much benefit unless the discharges were copious, and from different parts. Louis, a high authority in this disease, reports favourably of the same means, and states, that if we have the courage to employ in time a sufficient number of these derivative channels for the acrimonious humours, very marked advantages may be expected from the practice. Dr. Mudge considered that he cured himself of phthisis by establishing a large issue on his back; it held fifty peas. The practice has the authority of Celsus: —"Exulcerandum est ferro condenti, uno loco sub mento, altero in gutture, duobus ad mammam utramque, item sub imis ossibus scapularum."

The chronic inflammation of the larynx, accompanied with an ulcerated state of the mucous lining, is another species of phthisis, which is as generally fatal as the true pulmonary consumption, and which, in many cases, is equally benefitted by the establishment of permanent purulent drains. The author alludes to one case, which was cured by repeated moxas on the sides of the neck, by absolute quietude and silence, and by a sojourn in the neighbourhood of Naples.

We shall give the particulars of another case, not only because the subject is one of importance, but also as it affords an occasion to introduce to our readers a specimen of a prescription from a French physician.

A gentleman aged 38, was affected with a chronic irritation of the larynx; the voice was hoarse and feeble; the expectoration was copious, purulent, and streaked with blood; it was brought on by paroxysms of a cough, which was not deeply seated; the palate and mouth were inflamed, covered with livid vesicles and œdematous; hectic had wasted the patient's strength. He was ordered warm clothing, light farinaceous and milk diet, and absolute silence for a year or more; small doses of the syrup of morphine were taken twice a day; he was occasionally bled to a small amount, or leeched; a laudanum poultice was put round the neck; and an issue, to hold four peas, in-

serted on the nape. The lunar caustic was applied to the rectum and inside of the mouth. By a rigid observance of the above treatment for four months, the patient's health was much improved; the issue was kept freely open for more than five months, and the discharge was so copious, as to require fresh dressing twice daily. M. Recamier was consulted at this time, and the following is an abridged copy of his "response."

"The facts which are to be attended to, in considering this patient's case, are the supervention of hæmoptysis, occasioned by long-continued exercise of the voice; the existence of a chronic irritation of the larynx, with hoarseness; and lastly, an unhealthy place of abode, and an occupation unfavourable to recovery. I therefore prescribe a mild diet of butcher and poultry meat, farinaceous vegetables, ripe fruits;—water, as the only beverage; and asses' milk every morning and evening. An alum gargle is to be used for the throat, a small blister is to be applied on the front of the neck; and the patient must keep absolute silence for at least twelve months after the cure; he should avoid all drafts of air, and when he takes exercise, it must be gentle and easy;—much heat also is hurtful; and hence large fires, stoves, &c., are not to be approached."—*Trans. Med. Aug.* 1832.

XLV.

APHORISM.

"IMMO vero ex physiologia omnes antedicti sapientiæ professores ostendunt, neminem posse morbos commode curare qui corporis universi naturam non perspexerit."—*Galenus.*

XLVI.

ANALOGY BETWEEN THE ASIATIC CHOLERA AND THE SWEATING SICKNESS, OR "SUETTE EPIDEMIQUE."

DR. DUBUN-PEYRE-LONGUE, physician in the "arrondissement" of Pontoise, considers that these two diseases are very closely allied to each other. He resided in 1821, in a district which suffered much from the "suette;" and had thereby an opportunity of eminently studying its character.

During last year, cholera existed contemporaneously with it; and many cases of the "suette" assumed in their progress all the symptoms of the former pestilence. The skin, in the one disease, and the mucous surface of the bowels in the other, are the organs in which the essential symptoms originate, and are chiefly manifested, so that cholera may fairly be termed an internal "suette;" and this again, a cutaneous cholera. Dr. Gendrin, in his excellent Monograph on Cholera, says,—"If I had to find a place for this disease in a nosographical code, I should arrange it along side of serous diarrhœa; and not far from the "suette" of the 15th century; that frightful cutaneous phlegmorrhagia, in which the skin was the emunctuary by which the blood lost so quickly its watery portion. The most appropriate name for cholera would be "phlegmorrhenteria."—*Ibid.*

XLVII.

CASE OF LARGE HYDATID CYSTS IN THE ABDOMEN AND THORAX.

A MAN, aged 28, fell from a ladder on his right side, in March, 1831. In April, 1832, he had another fall; and after this time he felt a severe pain in the right hypochondrium and right shoulder; jaundice came on; the pain got worse and worse; the abdomen, especially over the hepatic region, increased in bulk; and dyspnœa was added to his other sufferings. The appetite and digestion, however, were not impaired. On examination, Dr. Gendrin found a large elastic swelling occupying the right hypochondrium, and extending upwards, so as to elevate the ribs, and downwards and laterally to the umbilicus and left hypochondrium. Fluctuation was distinctly perceived. MM. Gendrin, Recamier, and Dupuytren, gave it as their opinion, that it was probably a large hydatid cyst, developed, either in the substance of the liver, or on its convex sur-

face; and repeated applications of the potassa fusa were advised, for the purpose of opening it. But this was not effected in the course of two months; and as the swelling had much increased during that time, M. Gendrin, after ascertaining as well as he could, that it was adhering anteriorly to the abdominal parietes, plunged a trocar into it, and let out four pints of a colourless, inodorous, and thin fluid; a gum elastic tube was left in the orifice: tepid water was for several days injected, and allowed again to escape: it generally had obtained a yellowish colour, and was muddy and highly fetid. The discharge increased, and became mixed with yellow, transparent, friable shreds, which appeared to be formed of semi-concreted mucus or albumen. The patient died 23 days after the operation.

Dissection. The fistulous opening in the side led in to a large cavity, which was partly situated in the excavated substance of the upper portion of the liver, and occupied the right hypochondrium, the epigastrium, and also a share of the left hypochondrium: it was thus placed between the diaphragm, liver, and abdominal walls; its inner surface was lined with a yellowish, wrinkled, and powdered membrane. On further examination, this immense cyst was found to communicate with another cyst in the thorax, by an aperture through the substance of the diaphragm; this aperture was about an inch across, and its edges were lined with a false membrane similar to what lined the cysts; it was situate, a little above and to the outside of the vena cava; the thoracic cyst occupied the whole of the right cavity of the chest; the lung of this side was squeezed backwards on the spine, and its substance very much compressed. This cyst contained a considerable quantity of turbid and offensive cerum, in which floated a pellicle of yellowish colour, transparent, friable; and so large that it covered a foot and a half square of surface; it did not adhere at any points to the cyst; and it had no trace of any vessels in its texture. The substance of the liver was nearly natural, being only somewhat hardened in the neighbourhood of the cyst.—*Ibid, Sept.*

XLVIII.

Chemical Pathology of the Blood in Cholera, by M. de Canu, Professor to the School of Pharmacy at Paris.

The most remarkable and obvious change, is the singular increase of the proportion of the solid matters, to the watery portion; the following experiments clearly demonstrate this fact.

In the first:		
Water	66	
Solid matter .	34	
	100	
In the second:		Mean proportions.
Water . . .	74.9	Water 63
Solid matters	25.1	Solid matters 37
	100	100
In the third:		
Water	48	
Solid matters	52	
	100	

In healthy blood, the proportion of the watery part is about 0.78; and if we take this as a standard, the blood of cholera patients contains sometimes twice the normal quantity of solid materials; hence we can readily explain the treacle-like appearancee of this fluid, as it flows from a vein in the arm. I have not detected any considerable changes in the fibrine, albumen, and colouring matter; this last, indeed, was of darker hue in the arteries, and seemed to have experienced a sort of modification, analogous probably to that which takes place in the conversion of venous into florid blood. In attempting to ascertain the exact proportions of the different constituents of cholera blood, much uncertainty arises from the difficulty of separating the serous portion; but my observations do not agree with those of Hermann, of Moscow, who states, that cholera

blood offers sensible traces of acidity. The relative diminution of the alkaline carbonates is always appreciable, sometimes indeed to such a degree, that they can with difficulty be detected; and since these salts, as well as albumen, and an extractive matter, which has been compared to osmazome, are found in the stools, we may fairly attribute the increased thickness of the blood to the draining of the serous part by the intestines.

The white and apparently fibrinous matter observed in the rice-water stools, seems to me, to be rather of the character of mucus, than of fibrine; and I am more inclined to this opinion, as the fibrinous portion of the blood was not found defective.—*Ibid.*

XLIX.

CURIOUS CASE OF MORBUS CÆRULEUS, CAUSED BY THE AORTA COMMUNICATING WITH BOTH VENTRICLES, AND YET NOT OCCURRING TILL SEVEN DAYS AFTER BIRTH.

FOR the first six days of his life, the boy was apparently in all respects healthy; and the colour of the skin was of the usual pale reddish hue. On the seventh day, after a violent fit of coughing, the skin suddenly assumed a purple tinge. Notwithstanding this, the general health was moderately good, and the child throve well; he began to walk at the end of twelve months, and passed through dentition, measles, and vaccination, favorably; but his constitution was feeble, flabby, and scrofulous, and the blue colour of the skin was especially deep on the ears, cheeks, and lips, and extended inwards down the throat as far as could be seen; the limbs became atrophied; and the nails of some of the fingers were so curved round, and bent upon the bulbous ends, as to prevent them being used in grasping small objects. The respiration was triflingly hurried and uneasy, and digestion went on well: the pulse, although feeble, was of ordinary frequency, and synchronous with the pulsations of the heart. The child was repeatedly exhausted by hæmorrhages from the mouth; and died in his twelfth year, in consequence of epistaxis.

Dissection. The lungs were not above one half their usual size; their texture was hepatised in most parts, and their colour was of a yellow hue, except at those places where their texture was healthy. The blood in the two venæ cavæ was unusually black; the pulmonary veins were almost empty. The heart was somewhat enlarged, and its substance softened; and softening was apparent in all the other muscles: the large vessels arose regularly from the heart; but the pulmonary artery was small and contracted; the canalis arteriosus, which communicated with the right branch and not with the trunk of the pulmonary artery, was obliterated at its junction with the aorta, but open in the rest of its extent; the right auricle, and foramen ovale, were perfectly normal; the right ventricle communicated by one orifice with the aorta, and by another, which was smaller and contracted by a membranous projection, with the pulmonary artery; the left auricle was healthy, and also the corresponding ventricle, except the aortal orifice, which was smaller than the one in the right ventricle. The septum was of its ordinary thickness, except at the upper part, where it was perforated by an opening whose lower margin was formed by the muscular substance of the septum, and the upper one, by the walls of the aorta; by this aperture both ventricles communicated with the aorta, the edge of the septum forming a projection into its canal; the semilunar valves were healthy; but one of those in the mouth of the pulmonary artery was ossified, and much obstructed the passage, which was thus reduced to a diameter of three lines.—*Ibid.*

L.

ON PULMONARY EMPHYSEMA, IN CASES OF SUDDEN DEATH, AND IN ASPHYXIA FROM HANGING.

DR. PRUS, after adverting to the causes of death in such cases, from closure of the larynx, with or without rupture of its

cartilages, or of the trachea, from lesion of the spinal cord by luxation or fracture of the cervical vertebræ, from congestion of, or hæmorrhage in the, substance of the brain, &c., endeavours to prove that death may also be partly occasioned by an emphysematous state of the lungs.

Case 1. L. A. aged 69, entered the Bicetre Infirmary on the 10th January; he laboured under a constant oppression and sense of suffocation when he walked. Auscultation and percussion abundantly shewed that the lungs were perfectly normal; and the only disease which could be ascertained was a slight hypertrophy of the left ventricle. One morning, he was found hanging from the roof of the bed by means of a cord, which serves to enable the patients to raise themselves up.

Dissection.—No lesion of the larynx and trachea. The upper lobe of the left lung, and the upper and middle lobes of the right one, were affected with vesicular emphysema; and, at one part, the air had escaped from some ruptured cells under the pulmonary pleura, and had thus formed three large bladders of air, each nearly an inch across. The appearances in the other viscera were those usually found, as congestion of the cerebral vessels, &c.

Remarks. One of the most frequent phenomena in the bodies of those who die from hanging is the fluidity of the blood, observed long ago by Valsalva. The blood was perfectly fluid in the preceding case. By keeping this in mind, we can more easily account for the purple congestions and infiltrations in the skin, mucous linings of the bowels, bladder, and urethra, which Morgagni alludes to. It remains for future enquirers to ascertain whether the emphysema, which we have pointed out, be a constant, or merely an occasional phenomenon. Littre, in the Mem. de l'Acad. Roy. des Sciences, 1704, says that he found the lungs of a woman, who had been strangled, forcibly distended by the air which they contained, and the pleura entirely separated from the subjacent pulmonary tissue. Bonetus, in his Sepulchretum, says that, in one case, there was "fistulam spumâ pulmonum impletam." In some of the cases reported by Orfila, we observe that the lungs had been found emphysematous.

In all researches on asphyxia, it is of the first importance to remember that death may often be induced, where the mechanical constriction or obstruction of the air-passages does not totally prevent the ingress of the air. Foderé has seen a case, in which complete and fatal asphyxia was caused by a small portion of the shell of a nut, which, on dissection, was found lying free, and not at all impacted, in the bifurcation of the trachea into the two bronchi. Some instances of very sudden natural death are probably caused by an emphysema, either vesicular or intelobular, of the lungs. Dr. Prus alludes to a case of an old gentleman who was found dead in his bed; and the only morbid appearance on dissection was an immense sub-pleural emphysema.

A man in the Bicetre Infirmary became quite suddenly alarmingly ill; the face was purple, no pulse could be felt, and the extremities were cold and motionless; the physician predicted either hæmorrhage within the skull, or pulmonary appoplexy, or perhaps rupture of the heart or of the large bloodvessels. On opening a vein no blood flowed out, and the patient very speedily died.

Dissection. The only lesion which could satisfactorily account for the above seizure, was an immense sub-pleural emphysema of the whole inferior lobe of the left lung. The observations of MM. Leroy d'Etiolles, and Piedagnel, confirm the idea which we have set forth, that many cases of sudden death are attributable to pulmonary emphysema; and it is, therefore, very probable, that the speedy occurrence of this lesion may be one of the causes of death from strangulation.—*Ibid, October.*

LI.

On the Accidents caused by the Presence of Air in the Circulatory Organs. By Dr. Forget.

Perhaps the very best memoir on this interesting subject is, to this day, the fifth letter of Morgagni's admirable work. He

adduces two cases of very sudden death, apparently from apoplexy; but nothing unnatural was found upon dissection, except the presence of air in some of the cerebral vessels. He reminds his readers that Hippocrates admitted a "gaseous apoplexy." "Si quidem plurimi flatus per universum corpus discurrant, totus homo sydeiatur, si per partem, pars illa percutitur." Valsalva mentions that he once found the heart and the veins distended with a gas; Grotz witnessed the same, in a woman who died of suffocation, and Ruysh reports a similar phenomenon, which occurred in a case of very sudden death. In the above examples, the air seems to have been generated in the sanguiferous system, and, according to some authors, the blood of tortoises, and of a few other animals, always contains air. Wepfer is the first who experimented on the effects of introducing air into the veins of animals; it is said that he killed large animals, as oxen, dogs, &c, by blowing into the crural veins. Brunner, Redi, Rudolphi and others, have followed in the same path; and all agree in attributing the quick death to the distention of the right cavities of the heart with air. Portal, in 1771, repeated many of the experiments, and was led to believe that the true cause of death, in such cases, was cerebral apoplexy; Bichat, in his General Anatomy, ascribed it to the unusual impression made on the brain by the air, and not merely to its pressure, as Morgagni thought. "When (says he) a bubble of air enters a vein, the animal utters piteous cries, struggles, and is convulsed before death; are we to attribute this to the contact of the air on the common membrane (of the veins?) I think not; for usually a moment or two intervene between the injection and the cries of the animal; we should rather suppose that the pain is felt at the moment when the 'air strikes the brain,' after having traversed the lungs." Nysten, in his Recherches Physiologiques, 1811, inclines to the opinion of the old experimenters, and shews that the distention of the heart by air can satisfactorily account for the death. Medical men were at that time not aware that the very accident, which had been artificially and designedly produced in their experiments, may happen most unexpectedly in the human subject. No doubt many instantaneous deaths must have occurred to surgeons, during operations, long before the real cause was even suspected; for the pain, alarm, or syncope of the patient were then deemed a ready and sufficient explanation of such catastrophes; but it was not till 1821 that Magendie pointed out the fallacy of such opinions. This able surgeon was in the act of extirpating a large tumour from a man's neck, and when the operation was nearly over, the patient on a sudden cried out, "My blood falls in my body—I die;" at the same moment he became stiff and pulseless, and expired 45 minutes after the commencement of the operation. On dissection, it was found that the internal jugular vein had been divided near to its junction with the subclavian; bubbles of air were found in the cerebral vessels. In the following year, a similar accident occurred in the Hôtel Dieu. Dupuytren was engaged in dissecting out a tumour from a girl's neck; suddenly a whistling noise, like that of the rushing in of air along a pipe into a vacuum, was heard, the operator was astonished, and exclaimed—"if we were not too far from the air-passages, we should believe that we had opened the trachea." Scarce had he finished these words, and had divided the last attachment of the swelling, when the patient cried out, "I am dead;" and forthwith she was seized with a universal trembling, and expired.

Dissection. The right auricle was found blown out with air, which rushed out, unmixed with blood, when the walls of the auricle were divided. In the other parts of the circulating system, the blood was so blended with air, that on pricking many of the vessels, frothy bubbles oozed freely out. The lungs and other viscera were perfectly sound.

M. Leroy d'Etiolles, in the Archives Générales for 1823, inserted a memoir, the purport of which was, to prove that the death, in such accidents, is attributable to asphyxia from emphysema of the lungs. He says—"the introduced air is driven, by

the contractions of the right ventricle, into the capillaries of the pulmonary arteries, bursts them by its expansion, and thus causes a general emphysema of the substance of the lung; and this is the real cause of the stoppage of the circulation." Veterinary surgeons have met with the same accident, in bleeding horses from the jugular vein. In the "Lancette," Nov. 1830, several cases, which occurred in the human subject, are adduced by M. Clemot; in one, during the excison of a tumour in the axilla; in another, when he was tying the subclavian artery; and, in a third, when he was dissecting a tumour from the neck. In the two first cases the patients recovered; a noise like that of aspiration, or of a bellows, was heard; the finger was placed on the spot, and the noise ceased: when it was withdrawn, the blowing was again heard; the vein, which was not very large, was then tied, and no bad effects resulted. It appears, therefore, that Bichat was not correct in supposing, that the admission of a single bubble of air suffices to cause death. Dr. Barry, in 1825, specially directed the attention of the profession to the influence which the pressure of the atmosphere on the external surface, and the suction of the right side of the heart, have on the propulsion of the blood in the veins. He states that the black blood is moved forward only during inspiration; and it is very generally known that hæmorrhage from, or engorgement of veins, may often be abated by a few deep-drawn breaths. Professor Berard, in the Archives Générales, 1830, points out the anatomical condition of some of the large veins, by which they are more exposed to the suction of air into their canals than others. The most recent example of this accident occurred in the La Charité Hospital last Sept. M. Roux had nearly finished an operation of extirpating a tumour from the neck, when suddenly a whistling or sighing noise was heard, and immediately afterwards a gurgling or bubbling within the chest; the patient uttered some plaintive cries, and was convulsed; syncope supervened, and every one thought that she was dying; she, however, recovered gradually from this state, and the operation was finished by putting a ligature round the narrow neck, by which the tumour was attached; it separated upon the 10th day, and on the 13th she died of a stomach ailment, according to M. Roux.

General Remarks. The veins of the neck and adjoining parts are those chiefly exposed to the introduction of air during an operation. As we have hinted above, it is probably necessary that the veins be attached closely to the surrounding tissues, whether the attachment be normal or not, to keep the orifice of the divided vessel open and gaping. Whenever such a vein is cut across, it will be prudent to tie it as quickly as possible, especially if the least whistling murmur be heard. Magendie has the hardihood to propose a remedy, which recals to our minds what Bichat advised in desperate syncope, and which has been employed with success in the lower animals. The remedy consists in introducing a silver canula into the jugular vein, and, after directing it towards the heart a syringe is to be fitted on, and the air and blood to be pumped up. No trial has ever been made.—*Ibid.*

LII.

ASSASSINATION OF M. DELPECH.

ON the 29th of October, a ruffian, of the name of Demptos, ran towards Delpech's cabriolet with a double-barreled gun in his hand. He fired, and the ball entered the left side of the chest: he fired a second time and killed the servant on the spot. Delpech died in a few minutes. The assassin was a native of Bourdeaux, and aged 36; he had some time before applied to M. Delpech, on account of a varicocele, which, by proper treatment, was speedily made better. He returned from Montpellier to Bourdeaux, and there fell in love with a girl, whose parents, however, refused their consent. On being urged, however, to explain their reasons, they

admitted that M. Delpech had been consulted by them, and that his opinion was not a favourable one. Demptos forthwith repaired to Montpellier, resolved either to force a retraction from Delpech of what he had said, or to assassinate him. On the evening before the murder, Delpech was in the theatre along with his son; Demptos went up to him, and demanded a letter, which might confute the opinion given to the parents of the girl; the Professor refused to comply; and the villain left him, with threats of revenge.—*Ibid.*

LIII.

ON THE GOITRE, AS IT IS OBSERVED IN THE INHABITANTS OF THE PLAINS OF THE ANDES. By M. HUMBOLDT.

THE districts of Europe in which goitre and cretinism are chiefly found, are the narrow, confined, damp, and very warm valleys of Switzerland and Savoy. In the low-lying and warm countries of New Grenada, and the plains of the Rio Magdalena, situated between the second and ninth parallels of southern latitude, many of the people are affected with the most hideous goitres. All along the tract of this river, from its source to its confluence with the Cauca, a long extent of country, whose altitude above the level of the sea varies from 1800 to 180 feet, and which is called by the natives "Terra caliente," this singular malady is found to prevail. Now in this wide extent there is every sort of locality; at one part there are extensive forests and marshes, where the atmosphere is always stagnant and damp; at another part there is an immense plain, where the heat of the sun is so excessive as to scorch up all the vegetation, and the winds are often high and tempestuous, and yet here more goitres are seen than in the other region, where the air is moist, and never fanned by a breeze. If we follow the river Magdalena, above Tacaloa, between the 9th and the 11th degrees of latitude, all the goitres have disappeared; and what seems still more remarkable, this disease is never seen in the valley of the Rio Cauca, which flows parallel to the Rio Magdalena, between the same degrees of latitude. M. Calder, in his treatise on the Influence of climate, printed at Santa Fe de Bogota, says, that when we leave the Rio Magdalena, and follow the course of one of the streams which fall into it, we no longer observe any traces of goitre, nor yet at Caserez, nor in Antioquia, whose climate is warm and moist, and, in almost every respect, resembles that of the plains along the banks of the Magdalena, where the goitre is so very prevalent. Illustrations of the same incongruities are to be observed in Switzerland. We cannot suppose that the disease is attributable to any peculiar properties or impregnations of the water which is drunk. At Maraquita, where it is very common, the climate is temperate and delightful, the winds are refreshing, and frequently stormy, and the water is pure and wholesome; in short, no localities can differ more from one another than those of Maraquita and of the valleys of the Magdalena, or of Switzerland. If we continue our travels higher up the mountainous country of the Andes, we lose sight of the goitre, and might, therefore, be inclined to suppose, that as the climate becomes cooler, so does the disease become less and less frequent; but we are astonished to meet it again on the immense plateau of Bogota, situated upwards of 8000 feet above the sea. The mean temperature is about 59°; no country can be more widely different from the Valais, or the valleys of Savoy, where cretinism is endemic. What is very singular is, that the goitre was not known at Bogota thirty years ago, and that it is now on the increase, although no appreciable change in the climate, food, or drink has taken place. Many of those first affected with the complaint had never visited any place where it prevails. M. Restreppo, minister of state of Columbia, in his last report to the Congress in 1823, calls the attention of his government to the subject of the goitre (enfermedel de los Cotos) in the following words:—

"Every day it is extending its distressing sway over New Grenada, and now exists not only in the warm and temperate valleys, but in the icy ridges of the cordilleras." Let us briefly recapitulate the preceding observations. The disease of goitre prevails, not only in the low countries along the course of the river Magdalena (from Honda, to the confluence with the Cauca,) and in the higher lands along the same river (between Nieva and Honda,) but also in the elevated table land of Bogota, 6,000 feet above the bed of the river. The first of these regions is occupied with thirty woods; the second and the third are quite exposed, and have little vegetation; the first and the third are extraordinarily humid; the second is very dry; the winds are high and tempestuous in the second and third, while the atmosphere of the first is stagnant and impure. To these striking differences others may be added; thus the thermometer in the first and second regions range from 74° to 78°, and in the third from 39° to 60°. The water which is drank at Maraquita, Honda, and Bogota, is not snow water, but flows from rocks of granite and lime-stone. The most horrible goitres are those seen at Maraquita, where the spring water is purer than at Honda and Bogota, and where the climate is warmer than along the banks of the Rio Magdalena. The Indian or copper-coloured aborigines, and the negroes, are almost quite exempt from this malady. The African traveller Caillaud also informs us, that he did not observe any goitres in the black inhabitants. Humboldt did not see one in the countries on the banks of the Arinois, Rio Negro, &c. where not a breath of wind is felt, to the southward of the cataracts of Atures, and where the heat and moisture of the climate are almost unbearable; while on the lofty plateau of Quito, and in the villages of Alvasi and Chichinche, at more than 9,000 feet elevation, in a climate whose temperature ranges from 50° to 60°, cretinism exists in the descendants of the white people.

The observations of M. A. de Saint Hilaire, in his travels through Brazil, confirm many of the preceding statements; the reader may therefore advantageously consult his work, and also the remarks of Mr. Coldcleugh, in Daniel's Meteorological Essays. —*Journ. Complem., Octr.*

LIV.

On the Miliary or Epidemic Sweating Fever, which prevailed at Auxi-le-Chateau (between Picardy and Artois) in the Months of June and July last.

This disease has been more frequently observed in Picardy and the adjoining districts, than in the other parts of France: hence it has been called "la suette des Picards." In the year 1821 it raged with great severity in the departments of the Oise, and of the Seine-and-Oise. M. Rayer has given an excellent description of it. Last year it broke out, three weeks after the cholera had made its appearance, and fortunately it did so, for the progress and fatality of this latter scourge was much arrested; many of the cases indeed of the suette, were accompanied with symptoms of cholera, or at least of cholerine; but whenever the sweating broke out profusedly, the disease generally terminated favourably. Dr. Defrance treated between 40 and 50 cases and did not lose one. Most physicians are now agreed that this epidemic is not necessarily or essentially contagious; its cause appears to reside in some unknown state of the atmosphere; and no valid proofs can be adduced to prove its communicability from one to another, at least in the great majority of cases. The premonitory symptoms are headache, anorexia, general languor, nausea and feverishness; in the course of a short time, varying from a few hours to one or two days, according as the patient exposes himself or keeps his bed, the sweatings come on, and soon after these, the miliary eruption appears; this eruption is generally preceded by a most annoying itching over all the surface. The duration of the sweatings varies in different cases; but usually the patient begins to be convalescent on the third day, and then complains only of extreme weakness, which requires a week's quiet nourishing and management. The sweatings have frequently a most offen-

sive odour, like that of rotten straw, and oblige the patient to change his linen six, eight, or ten times in the course of one night. It was uniformly observed, that while the sweats lasted the pulse was full, strong and frequent, even in weak and debilitated constitutions. The importance of attending to this, is obvious in a therapeutic point of view. The urine is almost always scanty, red, and deep-coloured, till the sweating ceases or abates.

The preceding account of the disease applies very faithfully to the mild sort of the suette: but cases occur in which there are numerous and formidable complications; not unfrequently the symptoms of gastro-enteritis are present; or there are most distressing palpitations in the epigastrium; these are synchronous with the beats of the heart, and appear to be quite of a nervous character; in other cases, intense cephalalgia, stupor, or delirium; and in a third set, dyspnœa, cough, and other symptoms of bronchitis add much to the danger of the case. The treatment must necessarily be modified according to the prevailing, or casual type of the fever. An emetic of ipecacuan is in general a safe and efficacious remedy; but if any local congestion or inflammation be present, bleeding, either general, or, what is better, local, must be adopted. The convalescence from this fever is tedious and troublesome; the slightest error in diet, or any exposure to vicissitudes of temperature, will often cause a relapse.—*Ibid.*

LV.

MEMOIR ON THE FUNCTIONS OF THE ENCEPHALON, INCLUDING A BRIEF NOTICE OF MOST OF THE RECENT DOCTRINES.

M. ROLANDO considers that his experiments have proved that the medulla oblongata is the centre of sensibility, the focus and source of life. Treviranus regards it as the centre of animal life, at least. Fodera deems it to be the "hypomoclion" or under lever of life. It is, according to him, the main exciter of respiration, circulation, digestion, and of voluntary motion; the influence which it exerts, proceeding in an especial degree from the point whence the pneumo-gastric nerves arise; this point is the line of demarcation between the medulla oblongata and spinalis. The portion of the medulla situated below this point serves only to transmit impressions received; and the portion of the medulla oblongata situated above this point, is not the source of any influence, nor the centre of any action. The brain and cerebellum are only appendages to the medulla oblongata; and all irregularities of the sentient and moving powers, which are observed in diseased states of the mass of the encephalon are referable to sympathetic derangements in the functions of the medulla oblongata; for this latter part, is invariably the only real and true seat of palsy. According to M. Serres, the whole encephalon is endowed with sensibility, but the medulla oblongata is the principal seat of it. M. Hourens places the source or centre of vitality, and of the nervous power, in the medulla oblongata. All other parts of the nervous system, he says, are dependant on it. If the medulla be divided below the point at which the pneumogastric nerves arise, it dies, and the encephalic mass remains alive; if the section be made above this point, the very reverse ensues. Hence this point is termed by him the vital knot, the central bond of the nervous system, the base of the nervous tree, the encephalon representing the trunk, and the spinal cord and nerves, the roots of it. Respiration altogether depends primarily upon it; and it is not less indispensable for voluntary motion.

To none of these doctrines do we subscribe; the source and centre of life do not reside in, nor depend upon, any special organ, or set of organs, but each part is endued with vitality, and this vitality is a result of its organization. Neither animal nor organic life has an exclusive centre of influence or acting power; and, therefore, sensibility in its widest acceptation has no special, or particular seat. Every system, nay, every part of any and more especially of the nervous system, has in fact an independent existence or vitality, and hence we cannot admit to any part exclusively

what some authors have called "primordiality of action." Before we proceed further in our account of the functions of the medulla oblongata, let us determine what is the precise portion of the nervous system to which that term is to be applied. The older anatomists, and the most celebrated modern ones, include not only the rachidian bulb, or tail of the medulla oblongata, but also, the tuber annulare, and the crura cerebri et cerebelli; but we object to this classification, and while we are inclined to restrict the appellation to the rachidian bulb, and the ganglions which it comprehends, viz. the pneumo-gastric olivary or vocal, the acoustic, or auditory, and the gustatory or trifacial ganglions, we annex to them the optic and olfactory bodies or lobules, which have usually been considered as belonging to the cerebrum. The reasons of our disjoining the tuber and the crura cerebri and cerebelli are that their organization, their mode of development, and their relative bulk, as well as the results of experiments upon them, do not agree with the structure, growth, or functions of the medulla: whereas, in these very particulars, there is a striking resemblance between the optic and olfactory lobules, on the one hand, and the rachidian bulb on the other; and we have therefore associated them together. The medulla oblongata, as thus defined, is, as it were, superadded to the spinal marrow, and the functions of the one are analogous to, but are more complicated and more perfect than those of the other; and again it is subordinate, alike in organization, position, and complexity of function, to the other parts of the encephalic mass. The medulla oblongata is to the organ of special sense what the spinal cord is to the organs of general sensation and locomotion, (the skin and ordinary muscular apparatus.) The former, viz. the organs of the four special senses are provided not only with ganglionic nerves for the purposes of organic or nutritive life) and nerves of general sensation and of general muscular motion, but also with two sets of particular or supperadded nerves; the one being destined to transmit peculiar impressions from the organ to the nervous centre; the other, to receive the motive or existative influence from this centre, and to convey it to the organ. Now with these nerves of special sensation are associated certain peculiar or proper motor nerves; thus the hypoglossal is associated with the lingual, the third and fourth pairs, the ophthalmic of Willis, and the 6th pair, with the optic; and the facial with the auditory. The sense of smell does not require any general movement, and its muscular apparatus or appendages are imperfect; it is therefore not provided with a special or proper motor nerve, but is supplied with twigs from the facial and trifacial nerves. The relation which we have thus pointed out to exist between the auditory and facial nerves, co-operating simultaneously for the same function, although in a different mode, and the consideration of the mutual relative development of these two nerves, shew us the error of those who have regarded them as quite unconnected with, and independent of each other. In the same manner, the pneumo-gastric nerve, on the one hand, and the spinal, on the other, are in reality only two parts of the same nervous apparatus; the one consisting of sensitive filaments, and the other of motive filaments; co-operating with this apparatus, are other cords of filaments sensitive as well as motor, which proceed from different parts; these parts are the glosso-pharyngead, the hypoglossal, the phrenic, and the intercostals. The first phenomena, or set of actions, which follow any impression made on an organ of sense, and transmitted along its nerve to its respective ganglion, whether of the medula oblongata, or spinalis, take place in the locomotive, or muscular apparatus with which the organ affected is more especially associated, certain movements occur, for the purpose either of defending it from the too powerful impression of the external agent, or of better accommodating and ar-

ranging it, for such an impression; thus in the case of the eye, or of the ear, the first movements which follow a noise, or strong light are certain automatic and involuntary actions of the muscles subservient to the organs of vision, or of hearing; the object of which actions is either to mitigate, or to increase and concentrate the external impressions. Now these actions are under the influence solely of the medulla oblongata; but the perception of the impressions belongs to the brain, and to the brain alone; for the brain is the organ of the faculty which wills, and of the faculty which perceives and judges. We are therefore not to regard the medulla oblongata and spinalis as the seat of special and general sensation; they are, so to speak, points of transition, or organs intermediate between the external part on which the impression is made, and the brain which perceives the impression; the function of the medulla being rather to excite a train of movements (those of general locomotion), destined to withdraw the individual organ, or to approximate it to the external agent, or, at other times, to modify and alter the condition of the organ itself; in short, to determine and regulate those special actions which are necessary to the accomplishment of the functions of sense.

MM. Majendie, Dumeril, and Serres, suppose that the trigeminal nerve is fundamentally the real nerve of all the special senses; that it bestows, by a mode of influence which we do not understand, the special sensibility on the optic, olfactory, auditory, and gustatory nerves; and that frequently, especially in the lower animals, it takes the place, and exercises the functions of these nerves. The following are the chief arguments adduced in favour of these opinions. 1. In the mole, there is no optic nerve, but instead of it, there is a twig of the fifth pair; in fishes, there is no auditory nerve; in the cetacea, no olfactory nerve; and yet these animals have in all probability a certain degree of the corresponding sensations. 2. When the fifth pair is divided, all the special senses are destroyed, or at least enfeebled; when the special nerves alone are divided, the animal still retains in part the capability of perceiving odours, tastes, sounds, and light; but if the fifth pair is divided at the same time, these sensations are utterly and entire y annihilated. 3. Certain of the special sensations may be produced in other ways than the contact or impression of their ordinary stimuli; thus, for example, sound may be heard, although the external ear be plugged up, if a watch be applied to the head, or put between the teeth. 4. The occurrence of amaurosis, anosmia, and agenstia, from neuralgia of the trigeminal nerve. In answer to these arguments, we may state that division of the fifth pair does not immediately and instanter destroy any of the special senses; that a certain interval elapses, and during this interval, certain changes have taken place in the texture of the parts on which the nerve was distributed; thus in regard to the eye, the cornea becomes opaque, the conjunctiva inflamed and the humours muddy: the same results follow any injury or disease affecting this nerve; very different, however, is the effect of the division of the optic nerve; the sight is gone instantaneously and for ever. As to hearing the ticking of a watch, when put between the teeth, it is easily explicable on the well-known laws which regulate the transmission of sonorous vibrations; in a similar manner can we understand that those animals which have no external ear, as seals, moles, fishes, &c., may yet have the sense of hearing. And again; can we not hear the noise of our own voices, even when the ears are firmly plugged, and excluded from any atmospheric impulsions on the tympanum? We readily admit, that the 5th pair is intimately connected with the functions of the four special nerves; but this connexion is indirect, and arises from the trigeminal being the nerve of general sensibility, and of common mobility to the hand and face; and when it is destroyed, or disused, certain morbid

changes take place in the organization of the structures which are dependent upon it. But let not our readers be deceived, and suppose that these organic changes which ensue, are a proof that the trigeminal nerve has any direct influence upon the circulation, absorption, exhalation, and secretions of the organs, either in a state of health, or of disease: all these functions, and all morbid states of them, such as inflammation, ulceration, œdema, &c. are dependent upon, and regulated by, the great sympathetic nerve, which we know to be connected by several twigs with the fifth pair. The only direct result of the injury of the fifth pair, is the loss of common sensibility in the exterior surface of the eye and face, palsy of the muscles of the face and tongue, and an immobility of the eye. It is curious that any lesion of the great sympathetic, even in the neck, is followed by inflammation, dulness and atrophy of the eyes; in short, by all the consequences of an injury of the fifth pair itself.

Tiedmann observes that the great sympathetic, by the influence which it has on the general phenomenon of nutrition, and therefore on the organic condition of parts, and on the functions of these parts, such as the secretion of the humours of the eye, and of the mucous of the nose, must necessarily exert a great control over the phenomena of sensation, more especially of smelling and of sight. We have said above, that Majendie and others assert that the mole has no optic nerve; Carus and Geoffry St. Hilaire, however, are of a different opinion, and state that this animal has at least the orbitary portion of the nerve, that it is of the size of a hair, and is united to the ophthalmic branch of the fifth pair, to form with it the retina. This is still a disputed question; and although Hilaire supposes that the functions of any of the sensorial nerves are never transposed to, nor performed vicariously by, another nerve or nerves, yet we cannot deny, that in the invertebral animals, and even in some families of the vertebral ones, the divisions of the trigeminal nerve appear to supply the place and perform duties of the proper nerves of sense. In those animals which have no olfactory or gustatory nerve, or in which they have been cut, the probability is, that the sensations which belong to these special nerves, are reduced to the phenomena of ordinary and general feeling, or sensibility. There may be, quite possibly, a certain positive action of light on the minute and pulpy twigs of the fifth pair in the eye: for light must be regarded as a species of matter, and must therefore make an impression, however weak, and almost unappreciable, on a sentient part; but this impression is only a modification of the general phenomena of touch. The transformation, therefore, of nerves of general sensibility, into nerves of special sensation, is to be regarded as erroneous and unsatisfactory. Bell and Shaw have pointed out the many fallacies into which Majendie has been led, by confounding the phenomena of special, with those of common sensibility; and Eschricht has lately published a suite of experiments which are at utter variance with the conclusions of the French physiologist.—*Ibid.*

LVI.

EXTERNAL USE OF CYANURET OF POTASSIUM IN NEURALGIA.

THIS new remedy is employed in the form of solution in water (four grains to the ounce,) and applied to the pained parts in severe neuralgias, migraines, and obstinate nervous head-aches. A man applied at La Charité for a tic douloureux, which had tortured him for four months; he was cured in eight hours; but the pain returned a week afterwards, and again it was subdued. He still feels the remains of his former sufferings, but is free from those dreadful paroxysms, whose agony defied all language to express. In another case, under the care of M. Recamier and Trousseau, the patient had been affected for 15 years; every remedy even the division of the upper maxillary nerve had been ineffectually tried. The solution

was applied, and, after having been used for ten days, there was decided amendment ; the frequency and violence of the paroxysms being very much abated.

II. INTERNAL USE OF THE CYANURET.

Some have supposed that the smallest dose would prove deleterious : this is a mistake. M. Andral, of the Pitié, has given, for several days in succession, one and two grains, without observing any other effects but those which result from the exhibition of a few drops of prussic acid. He uses it in nervous affections, as in palpitations ; in one case he gave four grains a day : but it is right to observe, that the patient had previously taken prussic acid in doses of twenty-four drops. *Bulletin de Therapeutique, Oct.* 1831.

LVII.

AFFUSION OF COLD WATER IN TETANUS.

THE stream of cold water should be directed chiefly upon the head and spine, and in order to produce its sanative effects, it must be continued till a state of syncope is induced. Every one knows the amazingly powerful effects of this remedy, properly applied, in convulsions and other spasmodic diseases ; and Drs. Arnoldi and Doucet, of America, after having used with little success, emetics, calomel, and purgatives, in tetanus, had recourse to the cold affusion till syncope was brought on ; the patient is then to be put to bed, covered with warm clothes, and large doses of opium and sal volatile, or Madeira wine, are to be freely given with the view of bringing out a copious perspiration. To those who have experimented with nux vomica, it is known that animals poisoned with this drug, are more quickly and certainly restored by cold affusion, than by any other means.

In one case of opisthotonos, the patient, a girl of three years, was cured by taking a coffee spoonful of the following potion : —valerian, 2 oz. ; tartarized antimony, 2 grains ; and spirit of mindererus, 1 oz. : she was also immersed in a warm bath, impregnated with mustard. Frictions with camphor, opium, &c., may also be used with advantage.—*Ibid. Nov.* 1832.

LVIII.

CASE OF LACERATION OF THE WHOLE PERINEUM CURED BY MEANS OF THE QUILLED SUTURE.

A YOUNG female, during a first labour, was delivered by means of the forceps ; and unfortunately the perineum was lacerated. Fifteen months after the accident M. Roux first saw her ; the edges at that time were perfectly cicatrized, but soft and pliant ; the anus and vulva were laid open into one, and the fissure extended to the depth of an inch through the recto-vaginal septum. The sphincter ani had lost its power, and the patient was in the habit of taking opium in order to confine the bowels. One suture was applied to the septum ; and then four needles to the wound in the perineum. M. Roux did not find it necessary to make any lateral notches in the lips of the wound, as has been recommended by Dieffenbach. The needles were withdrawn in a few days ; but unfortunately no adhesion had taken place. M. Roux then determined to practise the quilled suture, as he thought that the curved needles might be pushed deeper, and made to embrace more of the flesh than the straight ones, and the ligature would not so squeeze and confine the lips of the wound, but would merely draw them together, and retain them in apposition. Before the operation, the patient was kept on a very low diet, for the purpose of inducing constipation : the edges of the wound being made raw by means of scissors and a scalpel, the needles, armed with double ligatures, were then introduced—the needles withdrawn, and the ends of the ligatures tied on either side over pieces of a gum catheter ; and, in order to prevent the edges of the wound from being forced too much forward, or from pouting outwards (which is one of the disadvantages of this sort of suture,) small separate threads, which had been

added to the ligatures, were now tied across the wound, so as to combine the interrupted with the quilled suture. The patient was kept on the most rigorous diet, and the bowels were not relieved till the twenty-second day after the operation, when the adhesion was firm and perfect. A partial unglueing of the wound, next the anus, occurred, but this healed by merely introducing pieces of lint into the rectum, as is done after the operation for fistula ani. Still there was a communication between the rectum and vagina, a small recto-vaginal fistula, which admitted with difficulty the point of the little finger.

The preceding case shews very satisfactorily, that, in many similar instances, the quilled suture, which has been nearly exploded from surgery for many years, is better adapted than any of the other kinds; we conceive that it may be practised, even in harelip, with success, and one very obvious advantage of it over the twisted suture is, that the flesh is not so much twisted and forcibly compressed.—*Ibid.*

LIX.

CYANURET OF MERCURY IN SYPHILIS.

M. Parent lately addressed a memoir on the good effects of this new remedy in venereal complaints, to the Academy of Sciences. He has published 27 cases illustrative of its operation. MM. Larrey and Boyer have been appointed to make a report upon the subject.—*Ibid.*

LX.

PHLEGMONOUS ERYSIPELAS, TREATED WITH LARGE BLISTERS.

Case 1. A man, aged 40, strong and plethoric, labouring under diffused inflammation of the fore-arm and arm, was admitted into Montpellier Hospital. M. Delpech ordered the fore-arm to be enveloped in a blister. On the following day, the swelling and pain were greatly diminished; but the inflammation had extended higher up the arm; a blister was applied to it, and the patient was speedily well.

Case 2. Diffused inflammation of the upper extremity had followed venesection; the above treatment was resorted to, and the disease was quite arrested in 48 hours.

M. Dupuytren recommends free and deep incisions in such cases as the above; when the inflammation is seated in the scalp, they afford almost the only chance of saving the life, or, at least, of preventing long-continued sufferings and danger.—*Ibid.*

LXI.

TREATMENT OF HOOPING-COUGH. By Professor AUTENRIETH.

No internal medicine is given, except for contingent symptoms, and the only remedy used is friction with tartar-emetic ointment (℥iss add ℥j. axungiæ.) A portion, of the size of a nut, is to be rubbed on the epigastric region three times a day. On the second or third day, an eruption of vesicles and bullæ appears; the friction is to be continued: the eruption spreads, and becomes pustular like that of small-pox; the friction may now be applied to any other part, but the eruption on the epigastrium is not to be permitted to pass too quickly off. In order to insure the efficacy of the treatment, we must not be satisfied merely with producing pustules; the rubbing ought to be continued till small ulcerations in the intervals between the crusts appear. The above treatment is to be steadily pursued for 8 or 12 days; if the eruption prove very painful, no application is so good as a hemlock fomentation.

Autenrieth has found this method most successful in two severe epidemics, during which he did not lose one patient. He does not approve of the watery solution of the tartarised antimony, and of the tincture of cantharides, recommended by Struve.—Henke, an eminent German physician, has seen numerous cases of pertussis much benefited by a combination of bark and opium;

he has also employed, with advantage, various stimulant antispasmodics, as ætherial preparations, ammonia, &c. but very judiciously urges the practitioner to draw the distinction between inflammatory and spasmodic hooping-cough, as it must be quite unnecessary to say, that a plan of treatment applicable to the one form may be most pernicious in the other.—*Ibid.*

LXII.

ON SUGAR, AS AN ANTIDOTE AGAINST POISONING FROM COPPER.

ORFILA, in his celebrated work on Toxicologie, strongly recommended sugar; in all cases of poisoning from any of the salts of copper. He found that, at the boiling point, sugar decomposed the acetate of copper, and converted it into a protoxide, of an orange-yellow colour; but this effect was not produced at lower temperatures; how, then, could it be supposed that the sugar could neutralize the cuprous salt in the stomach? He performed a new set of experiments, and his conclusion from these was, that sugar was no "contra-poison," and that its only effect was to sheathe the irritated surface of the stomach. He subsequently proposed albumen as a useful antidote, as he found that it has the property of precipitating solutions of coppery salts; reducing these to the state of an oxyde, and of forming an insoluble compound with this oyde.

M. Postel has lately directed his attention to this very interesting subject, and has published his observations in the Journal de Pharmacie. He took two dogs, of nearly equal size and strength—he introduced into their stomachs a drachm of verdigris, mixed with four ozs. of water. In a few minutes, both began to moan, vomited, and passed a stool, which was tinged with blue; he then injected gradually, by means of an œsophageal tube, a large quantity of albumen into the stomach of one of these dogs; and into that of the other a quantity of strong syrup. Both of them vomited, and were purged several times, appeared tolerably easy, and drank freely of water. The first or that to which the albumen had been given, died in the course of the night; the other one recovered. A similar experiment, performed a few days afterwards, gave the same result; but, in a third experiment, the dog to which the sugar was given died, while the other one got well. To ascertain whether MM. Orfila and Vogel were correct in their statements, that sugar has no effect on verdigris, except at the boiling heat, M. Postel performed numerous experiments. He mixed verdigris with sugar, and exposed them to a heat of from 86° F. to 97° No sooner were they brought into contact, than he perceived a sensible change of colour, and, after a few moments, several points of a yellow hue, which gradually spread over the whole of the mixture; the same result was always obtained. Instead of the common verdigris, he now employed the crystallized acetate; the only difference in the result was, that the colour of the mixture assumed a deeper tinge. Even when the above mixture is exposed to the ordinary temperature of the air, the same phenomena are observed, but only more slowly.

If to a solution of the crystallized acetate of copper, be added a certain quantity of clarified syrup, at the ordinary temperature of the air, the liquor loses its blue colour, and passes to a green hue. In a few minutes, it becomes opaque, and we perceive flocculi through it; these gradually fall to the bottom, and have a deep red colour. If more syrup be now added, the solution becomes almost colourless; the precipitate was found to consist of protoxide of copper. M. Postel wished to ascertain the effects of poisonous doses of copper, when the animal was prevented from vomiting by by a ligature put round the œsophagus.

Exper. 1.—He injected into the stomach of a middle-sized dog thirty grains of crystallized acetate, dissolved in two ounces of water; a short time afterwards,

four ozs. of brown sugar in four ozs. of water were injected, and the œsophagus tied. The animal remained quiet for 20 minutes; it then struggled to vomit—passed two stools, which were of a blue colour, but did not utter any cry; two hours after the operation, it lay extended, and made no efforts to vomit, and in another hour it died.

Exper. 2.—The same steps were followed as in the preceding case, only, instead of the sugar, the whites of four eggs, blended with water, were introduced after the copper; the dog died in five hours after the operation.

The conclusions which M. Postel draws from all his observations are—

1. That sugar decomposes the acetate of copper, not only at the boiling temperature, but at the ordinary one of the atmosphere, although more slowly—that this decomposition proceeds more or less rapidly, according to the concentration of the fluids; and that, under all circumstances, the coppery salt is reduced to a protoxide.

2. That sugar exerts an analogous effect in the stomach, since animals to which it is administered, resist the agency of the poison much longer than when it is not; and since the morbid appearances on dissection differ considerably in the two cases.

3. The morbid appearances, when albumen has been given, are nearly the same as when sugar has been given.

4. Sugar may, therefore, be considered among the direct antidotes against poisoning from salts of copper.—*Ibid.*

LXIII.

VISIT OF M. CLOT BEY TO THE HÔPITAL ST. LOUIS, AND HIS REMARKS ON ELEPHANTIASIS.

THIS distinguished physician of the Pacha of Egypt, and founder of the medical college at Abouzabel, near Grand Cairo, recently visited the wards of this large hospital, where more cases of skin diseases are to be seen than in any other. The Baron Alibert, one of the physicians, accompanied M. Clot.

Among the cases was one of elephantiasis of the lower extremities, an affection very common, and indeed endemic, in Egypt. The treatment found most effectual, in that country, is compression with straps of diachylon plaster. The whole limb is enveloped with the straps, which are to be neatly applied, the one overlapping the other, and made to cross on the fore part. The effect of this treatment is to cause a more or less copious exudation from the diseased surface. The straps are to be kept on for a considerable time, and removed when necessary; in removing them, we should divide them across with scissors the whole length of the limb—then the whole may be taken off, like a long gaiter, at once.—*Révue Med.*

LXIV.

THE VARIOLOUS EPIDEMIC AT TURIN, IN 1829.

M. GRIVA, an eminent physician at Turin, has published an interesting memoir on this epidemic. He is a strong advocate for vaccination, and states it as his opinion, that upwards of 4000 inhabitants were saved by its means; that it is a better safeguard against small-pox, than even one attack of small-pox is against another; and that the disease, modified by vaccination, is milder than modified by a previous attack of the variola itself. He points out, with great exactness, numerous forms of variolous and vaccine papules, and also of other eruptions which are apt to be mistaken for these, and urges the necessity of carefully attending to the discrimination of these. He has made numerous experiments on the comparative efficacy of the virus, taken directly from the cow, and of that which is obtained from the arm of a person who has been vaccinated; and draws the conclusion, that its properties are not changed, nor modified, by passing through the human body. He says that vaccination is to be regarded not only as the best prophylactic of variola, but also as a curative means in many other diseases,

such as agues, ophthalmias, scrofula, hooping-cough and cutaneous affections, and supports his views by numerous observations from his own, and from the experience of authors.—*Ibid.*

LXV.

ON THE USE OF SUBCARBONATE OF IRON IN THE GASTRALGIA OF FEMALES.

THE form in which it is recommended is that of pills, and the dose from 6 to 24 grains in the course of the day. M. Trousseau alludes to the great frequency of gastralgia, in connexion with leucorrhœa and chlorosis, and to the errors committed in practice, by mistaking it for chronic gastritis.—*Archives, Sept.*

LXVI.

CASES FROM THE "CLINIQUE" OF DUPUYTREN.

1.—*Perpendicular Fracture and Dislocation of the Lower Extremity of the Tibia; it is also termed "Luxation of the Foot backwards and outwards."*

The limb was at first laid upon the apparatus for fractures of the fibula, and the cushion placed behind, in order to counteract the tendency of the foot to fall backwards. The compressor of Dupuytren was subsequently applied; but gangrene supervened, and the patient died. On dissection was found a perpendicular fracture of the articulating extremity of the tibia, and one portion had been driven forwards and the other backwards.

CASE 2.—*Spontaneous Gangrene of the Leg, with Disease of the Femoral Artery.*

A female, aged 40, had experienced for some time a feeling of numbness in the right leg; gangrene supervened, and although it was checked by bleeding, the patient died. The crural artery, about the middle of the thigh, was contracted, and contained a filiform clot, of a lively red colour. Higher up the limb, the artery was of its usual calibre, but was hard, incompressible, and plugged up with a coagulum, which extended to the common iliac trunk, and into the internal iliac on the right side.

CASE 3.—*Gangrene of the Foot, supervening almost immediately upon puncturing the Abdomen for Ascites.*

M. Dupuytren was puzzled to explain the cause of this accident.—*Gaz. Med.*

LXVII.

POISONING BY SULPHURIC ACID.

A MAN swallowed two ounces of sulphuric acid; and, strange to say, the pain at the epigastrium was very inconsiderable, although all the other symptoms of poisoning from such a virulent agent were strongly marked.—*Ibid.*

LXVIII.

FRACTURES OF THE LOWER END OF THE RADIUS MISTAKEN FOR LUXATIONS OF THE WRIST.

M. GOYRAND states, that the injury which so frequently happens from falling on the palm of the hand, and which is characterized by the prominence of the extremity of the ulna, and by the diameter of the wrist-joint being diminished transversely and increased antero-posteriorly, is not a dislocation either of the radio-ulnar nor of the radio-tarsal articulation, but is, in truth, a fracture of the end of the radius. Dupuytren has directed the attention of surgeons to this point. M. Goyrand recommends graduated compresses to be applied to within an inch from the wrist-joint.—*Ibid.*

LXIX.

PRECOCITY OF DEVELOPEMENT OF THE GENITAL ORGANS IN AN INFANT.

IN this infant, at the time of its birth, the mammæ were unusually large, and the mons veneris "garni" with hair. At 3 years of age the catamenial dis-

charge appeared, and has continued regularly to the present time, a period of 18 months.—*Ibid.*

LXX.

Short-Windedness in the Horse.

This affection is generally dependant upon pulmonary emphysema, either of the vesicular or the interlobular kind. The French veterinary surgeons employ the stethoscope with great advantage in their practice; the feebleness of the respiratory murmur, the friction sound, the crepitant and sibilant râles, along with strong resonance of the chest on percussion, are the diagnostic marks of pulmonary emphysema in the horse, as in man. According as these signs are heard over a great or small extent, so is the disease to be considered general or local.

LXXI.

Insanity in France.

The number of the females exceeds that of the males, in almost all the lunatic houses throughout France. Between the 30th and 50th year, the influence of age appears to be nearly the same on both sexes; but many more men than women become deranged before the 30th year, and the reverse holds good after the 50th year. Not many cases of insanity occur in young persons under 15, nor among the aged after 60, except of that form which some have termed "dementia senilis." As to the influence of marriage on the frequency of insanity, it is observed that nearly twice the number of cases occur in bachelors as in married men, and more than twice the number in single than in married women. If the cases of insanity are grouped according to the threefold division of mania, monomania, and dementia, we find that more than one-half the number belong to the first class, about a fifth of the number to the second, and only a tenth to the third class, viz. that of idiotcy. Mania often succeeds to monomania, and both these states not unfrequently pass into dementia. It is much more rare to observe the idiot become maniacal, either generally or upon one subject. The most common pathological appearance observed upon dissection, is effusion of a sero-lactescent fluid between the arachnoid and pia mater; sometimes wasting or degeneration, at other times increase in the bulk, of some of the cerebral convolutions is distinctly marked; and in several cases, the morbid alterations have been found well to accord with the phrenological positions of the organs. It is right, however, to remember that, very frequently, not an appreciable trace of disease is found on examination of the brains of insane persons.—*Annal. d'Hygiene, &c.*

LXXII.

Fractures of Bones by the Action of the Muscles.

A young man, aged 23, while amusing himself by throwing pebbles to a distance suddenly felt a snap and severe pain at the lower third of the arm; all the signs of fracture were most apparent; yet he had received no blow, nor had he fallen. The arm was put into splints soon after the accident. Seven months subsequently he entered the Hôtel Dieu; the fracture had never united. The patient was under treatment at the date of the report.

Remarks by Dupuytren on the preceding Case. The bones most commonly fractured by mere muscular force are the patella, os calcis, and the olecranon of the ulna. Dupuytren has seen upwards of 20 cases of fractured patella; and the mode in which the accident generally happens is this—a person with a heavy load on his back stumbles forwards; he attempts to recover his equilibrium, and, during the effort, the violent action of the extensors of the knee causes the patella to snap. He has seen the olecranon broken in a young man playing at tennis, while aiming to strike the ball. When the long bones break spontaneously, the cause is, in the majority of cases, to

be found in a cachectic state of the system, such as that in syphilitic, scrofulous, scorbutic, and cancerous complaints; hence many authors have said, that a long bone cannot possibly be fractured by the mere action of the muscles in a healthy constitution; but several authentic examples are on record in the Philosophical Transactions and other works. M. Curet once saw the accident occur in a sailor, who was "pissing overboard" from the forecastle while the ship was rolling, the violent action of the muscles of the thigh, to keep him erect, caused the femur to break.

Leveille, in his Nouvelle Doctrine Chirurgicale, mentions the case of a young boy, aged 11, in whom the humerus snapped while he was throwing a pebble.—*Journ. Hebdom, Dec.*

In the Révue Médicale, for Nov. is reported a case of spontaneous transverse fracture of the sternum. The patient, a woman aged 37, of a healthy constitution, was in the act of lifting a heavy weight of olives into a cart; the head and body were forcibly thrown back, to enable her to rest the weight partly on the stomach, and, while making the effort to raise it higher, she felt, as it were, a crack at the middle of the sternum; this was followed by an acute pain, which forced her to press upon the part with her hands. A fracture was at once detected by the surgeon; and the lower portion of the bone was found to be projecting, and the upper one to be depressed. Compression and a bandage were applied, and in the course of a month the union was complete.

Remarks. Fractures of the sternum may be occasioned in three ways; either by a direct blow—by a fall upon the back, giving rise to a "*contre-coup*"—and, lastly, by the violent opposed actions of the sterno-pubic and sterno-mastoid muscles.

LXXIII.

DEATH OF DR. SPURZHEIM.

THIS distinguished philosopher died at Boston, in America, on the 10th of last Nov. He had been seized with the symptoms of continued fever about three weeks before: but they were of rather a mild form, and did not excite apprehension till within a few days of his death. The only symptoms at all unfavourable, was a restlessness and irritability which could not be soothed; this is not unfrequent, in those whose minds have long been exposed to the "wear and tear" of deep and anxious thought. Like many professional and literary men, he had a great aversion to bleeding and almost all medicines; and it appears that his constitution was easily "impressionable;" a drachm of Epsom salts purged him violently. On dissection, no satisfactory morbid appearance was found in any of the cavities.—*Ibid.*

Our readers may remember the account of Lord Byron's last illness; it agrees in many particulars with the preceding case. Medical men should be much on their guard, in their treatment of literary and scientific men, or, indeed, of any whose minds have often felt the exhaustion of intense thought or of harassing anxiety.—ED.

LXXIV.

THE "CLINIQUE" OF M. BOUILLAUD, AT THE HOSPITALS LA PITIE' AND LA CHARITE'.

M. BOUILLAUD alludes to the great improvements in medical practice since 1816, when Broussais effected a revolution in the doctrines of the schools, and established the sure foundation of physiological medicine. Even those who have been, and still may be, most hostile to it in their writings, adopt its principles at the bed-side of their patient; thus, although they will not admit that typhus is one of the numerous forms of gastro-enteritis; their treatment of it, however, is strictly antiphlogistic. Numerous cases of variola, scarlatina, and rubeola, have been admitted, during the last six months of the year 1832, into the hospital. It is now generally admitted, that the erup-

tion on the skin does not in itself constitute the exanthematous disease; that the eruption is merely one of the elements or phenomena of it, and that without denying the existence of other simultaneous complications, such as changes of the blood, direct affections of the nervous system, &c. by far the most common and most important is an inflammatory congestion of the encephalic, respiratory, or digestive organs. Now it is proper to observe that the internal phlegmasiæ, which so very frequently accompany eruptive fevers, assume sometimes a special or particular character; thus, the angina in scarlet fever is ordinarily of the diptheritic kind; but yet it would be a most serious error, if we supposed, with some able physicians, that these specialities forbid the employment of anti-inflammatory remedies. In the 13th bed of the ward, St. Jean de Dieu, you saw a young man in whom scarlatina was accompanied by an intense diptheritic angina, extreme exhaustion, intermittent pulse, and great dryness of the skin; the prognosis was certainly, to all appearance, most unfavourable. He was bled, and had leeches applied several times to the throat, and all the worst symptoms speedily vanished. Certainly we are not to overlook the various forms which inflammations may assume; but we must be always careful not to lose sight of the very foundation of the disease; the old adage is generally a true one—"la forme emporte le fond."

In the disease which has been called typhus, or typhoid fever, entero-mesenteric fever, dothinenteritis exanthema intestinalis, and which we have designated entero-mesenteritis, because, in reality, the inflammation of the small intestines and of the adjoining mesenteric glands is the fundamental element and starting-point of the disease, the antiphlogistic treatment has been uniformly and most successfully adopted. We have very seldom employed the chlorurets at the same time; these remedies, however, form excellent adjuvants, in many cases of those fevers which are termed "essential." They were first recommended in the treatise which I published in 1826.

In "*erysipelas*," the treatment has consisted in bleeding, when the disease was severe, and in the exhibition of ipecacuan and the employment of the antiphlogistic regimen when it was mild.

The progress of "*tubercular bronchitis*" was very sensibly arrested, in many instances, by means of a low diet and the occasional application of a few leeches, of the cupping-glasses, and of revulsives. There was one case of partial phthisis (a cavern at the summit of the right lung), which was completely cured in this manner.

"*Partial Dropsy.*" Many examples of this affection have been witnessed by our students; they have been almost all traced to some impediment to the venous circulation, arising from obliteration of the vessels by fibrous concretions in their cavities. Professor Chomel (Lancette Française, No. 81) mentions a case, in which the œdema was confined to the upper half of the body; see, also, a paper "on the Obliteration of the Veins, and its Influence in producing Partial Passive Dropsies," in the Archives Générales de Médécine, 1824. Several cases of diseased heart, of peripneumony, of effusion into the chest after pleuritis, of hæmoptysis, of typhus fever, of colica pictonum, of jaundice, are detailed; the same general therapeutic means were employed, namely, bleeding, general or local, varying in quantity according to the symptoms, and the other parts of the antiphlogistic regimen, with very striking advantage.

'Tis most gratifying that the indications of cure, in very many diseases, are now so simple and well understood, and that the practice of medicine is becoming every day less and less empirical, and acquiring a more rational and satisfactory character. This change of things we owe to the great mind of M. Broussais, the father of reformed medicine.

M. Bouillaud has used the antiphlogistic treatment in cholera with certainly as great success as can be fairly claimed for any other method proposed. In 34 cases, lately under his care, only 9 died, although 14 were in the last stage of the disease. Numerous cutaneous diseases have been cured, nay, we might rather say strangled, by the repeated

application of leeches. In one case of ichthyosis, the employment of sulphur baths was very successful.

Several tertian agues, of one, two, or even three weeks' standing, yielded to one or two general bleedings, without having recourse to the quinine. A case of chorea, of 8 month's standing, in a girl aged 13, received much benefit from a venesection, cupping between the shoulders, baths, and the use of valerian; she entered the hospital on the 21st May, and went out on the 9th of July, so well that she could work with her needle.

A patient, while in the hospital, was seized with erysipelas of the left fore-arm and hand, accompanied with violent pyrexia and much cerebral disturbance. He died on the 4th day. On dissection, several enormous abscesses were found under the integuments of the left arm, the veins of which were inflamed. Morbid appearances were discovered in most of the joints of the body.

Arteritis. A man, aged 34, had experienced for 15 days a sense of numbness in the right arm, and at times a most acute pain, extending from the hand to the elbow; the limb was swollen, but there was no redness; in the course of a few days, no pulse in the radial artery was to be felt, and the vessel was hard and motionless under the finger. A few days subsequently the humeral artery, up to the axilla, became also pulseless; leeching and fomentation abated the pain, but the pulse did not return; the patient, however, left the hospital nearly well.

"*Exanthemata.*" The measles, scarlet fever, and small-pox have been very prevalent and very fatal in Paris for the last two or three months; the dangerous complications of these diseases are almost always of an inflammatory nature; thus, measles is attended with severe bronchitis, and scarlatina with diptheritic angina, which, in the worst cases, affects the larynx and trachea. The small-pox has frequently been confluent, and the number of deaths has been considerable. [Were we to hazard an opinion on M. Bouillaud's practice, which, on the whole, we much approve of, we should say that large depletion by bleeding, &c. in the early stage of small-pox, or indeed, of any of the exanthemata, is seldom borne well. In the cases of fatal confluent variola, mentioned in his "clinique," one patient had been copiously bled twice from the arm, and had 36 leeches applied. On dissection, the lungs were found engorged, and the cavities of the heart empty; the other was bled once freely from the arm, upon the second day of the eruption, and when the pulse was only 84 and the skin was moist.

The exanthemata ought not to be too much interfered with; they have a course to follow and the object of a prudent physician is rather to regulate and control, than to arrest or to divert.—ED.]

Inoculation of Small-Pox Matter in a Person who had been previously vaccinated. The virus was taken from some ripe pustules on one of the preceding cases, and inserted into the arm of a young man who had been vaccinated when young, and in whom the cicatrices of the vesicles were very distinct. Four days after the operation he felt himself not well; but there was no fever. On the 5th day, a small papula appeared on the site of the inoculation; it was hemispheric, depressed in the centre, and surrounded by a red areola. On the 6th, several small papulæ, having the same characters, appeared around the first one. On the 7th, the pustules had lost their umbilicated form, and were more rounded. On the 8th, scabs had been formed; and, on the 10th, these had fallen off, leaving slight traces, which disappeared in the course of a few days.—*Journ. Hebdom. Nov. et Dec.*

LXXV.

Foreign Body in the Trachea for Five Months.

A child, 5 years old, in frolic swallowed a French bean; immediately all the signs of suffocation came on, and, after continuing for two hours, they ceased, and the little patient was cheerful, and apparently well: but again the same distress in breathing and the shrill croaking voice returned, and again they vanished—these attacks every now and then came on. After the lapse of 5 months, the child was seized with a violent paroxysm of cough and excessive dyspnœa, which had been brought on by leaping, and in the course of a short time the child died suffocated.

On dissection, two pounds of serum were found in the left pleura, and there were numerous adhesions between the lungs and ribs upon this side; the left lung was much congested, and did not crepitate—its colour was a deep purple. Where the bronchus enters the lung, an inflammatory ring of six lines in diameter was observed; here, no doubt, the bean had lodged during the five months, till it had been displaced by the shaking of the body from the leap, into the right bronchus, where it was found hermetically plugging up the tube.—*Révue Med.*

LXXVI.

Epidemics independent of any appreciable Changes in the Atmosphere.

Baron Alibert very justly observes, that we cannot well account for the suddenness of the invasion, the quickness of the transition from perfect health to most formidable and fatal disease, the inefficacy of all prophylactic as well as of curative means and many of those inexplicable symptoms, which mark the history of most pestilences, by reference to any alterations in the physical or chemical condition of the atmosphere. He does not deny that these alterations may seriously affect both man and the lower animals, and may considerably modify the type and general character of many of their diseases; but then daily observation abundantly proves that these very alterations may take place rapidly, and to a great extent, without bringing along with them that host of horrors and that desolation which marks the invasion of a pestilential scourge. Tacitus mentions that, during the terrible plague at Rome, in Nero's reign, there was "nulla cœli intemperies quæ occurrerit oculis," but that some earthquakes and dreadful storms had been experienced about that time. The weather which preceded the invasion of the plague in London, in 1665, was pleasant and healthful, according to Sydenham; but while it raged, there was also great mortality of the lower animals, especially of sheep and cows; and it is worthy of remark, that in the years 1664-5-6, three comets had been visible, and Mount Ætna was in a state of constant activity.

According to Fernel, the pestilential dysentery which desolated Europe in 1538-9, was not accompanied by any appreciable changes in the state of the atmosphere; but violent earthquakes and eruptions from Mount Vesuvius occurred at the time. He comes to the conclusion, that it is needless to search for the germ of an epidemic in the air; that it is a poison sent from Heaven upon earth—"inquinamentum a cœlo demissum." In 1580, Egypt was visited by a a plague more terrible than any since the time of Pharaoh; in Cairo alone, half a million died in the course of eight months; and, during the same year, Rome, Hamburgh, Lubeck, and many other towns in Europe, were ravaged by a most fatal epidemic catarrh or influenza; there was also great mortality among all sorts of cattle, and, moreover, a comet was visible for two months. An interesting feature in the history of epidemics is, that they are often present in numerous places, widely remote from each other, and each having very different climates, at one and the same time; and, on the other hand, certain places or districts frequently escape, while all around

is the scene of their ravages. Similar occurrences are met with in the vegetable world; one field of corn will sometimes be found destroyed by the blight, while the adjacent ones are sound and productive, even although their soil is alike, and they have been treated in exactly the same manner. The plague of 1576 depopulated Verona and Padua, and spared Vicenza, situated between them; on the following year Vicenza was visited, and the two other towns escaped.

Again, sudden and very terrible changes in the atmosphere have been known to occur without inducing any pestilential disease. The famous epoch in the 6th century, when storms and tempests so utterly confounded all distinctions of the seasons, that the end of the world was deemed to be at hand; when the sun became pale, and gave only a feeble light for twelve months—'toto anno eo, lunæ instar sine radiis lucem tristem præbuit plerumque defectam patienti similis,' when eclipses added to the darkness and horror, when the plants of the earth were dried up and withered away, and when famine stalked abroad among the nations, even then no pestilential disease existed. Many other instances might be mentioned, but it seems unnecessary. We are, therefore, justified in our conclusion, that the air may serve as a vehicle for the dissemination of the germs of pestilential diseases, but that it is not the source which gives them birth.—*Ibid.*

LXXVII.

LECTURE ON TETANUS. By MR. MORGAN.

THIS terrible disease seldom occurs in this country, except after wounds or contusions. Mr. Morgan observes that, when it comes on after the healing of a wound, there is generally a premonitory pain in the part, or an increase of pain, if the part be not healed. We need not stop to state any of the symptoms of the disease, as they are too well known. Mr. Morgan doubts whether, in the succesful cases, the remedies or the constitution effected the cure? He has never seen an instance of recovery from *acute* tetanus, nor *heard* of one! This seems rather strange. Mr. Morgan must exclude printed reports from under the head of *hearing*, otherwise he might hear of numerous cures of acute tetanus, by making one of his pupils read to him for half an hour. We recommend to his perusal Dr. Morrison's little book on the subject. Mr. Morgan considers tetanus as a disturbance in the functions of the brain and general system, caused by their connexion or sympathy with the nerves of the injured part—*and by that only.*

"Now, whether all diseases, and all morbid phenomena, do or do not owe their origin to nervous sympathy *alone*, is a question that will never be settled in our time. So far, however, as my own opinions go, I firmly believe that *every* disturbance in the system may be fairly traced to the sympathy of the brain with a local impression, and not *necessarily* to absorption, or to any other agent. Let me not be misunderstood; I do not dispute the well-known fact of the absorption of morbid matter by the veins and absorbents, nor of the necessary subsequent conveyance of this matter (whether it be gaseous, fluid, or solid) through the whole circulating system; but what I contend for is this—that neither its *contact with the brain*, nor its entrance into absorbent vessels, are *essentially necessary* to its operation on the living body. I believe that the sentient extremities of nerves are the parts upon which an impression is first made; and that the different degrees of morbid susceptibility, observed in different structures, may be more satisfactorily accounted for (whether in reference to the application of a poison to the inner coats of absorbent vessels and veins, or to the cellular textures around them) by the theory of nervous communication, than upon the hypothesis of the *necessity* for the absorption and the *contact* of the morbid agent with the brain."

Mr. M. was able to produce every symptom of tetanus in animals, by the introduction of *chetik*, an Indian poison, into

wounds. He next endeavoured to counteract these phenomena by the introduction of other poisons of an opposite nature. This was the ticunas.

"I found, that in cases of *artificial* Tetanus, brought on in dogs by the means I have mentioned, I could readily *control* the severity of the spasms, and prolong life by the subsequent inoculation of the ticunas; but that the influence of the remedy depended upon its *early* application. In more than one case, I have perfectly restored the animal to health by bringing this antidote into operation as soon as the *first* effects of the chetik were observed, and by regulating its after-consequences by partially, or altogether, cutting off, from time to time, by means of a ligature, all nervous communication between the wound into which it was inserted and the brain. If this latter precaution was not observed, I always found that the ticunas, being the more powerful poison of the two, inevitably occasioned death in a few minutes. In all cases, I took care to insert a quantity of the tetanic poison more than sufficient to destroy life, provided no remedies had been used."

Mr. M. does not indeed recommend his readers to inoculate their tetanic patients with ticunas. His only object is to draw attention to the possibility of obtaining, at a future time, some one or other of its (now unknown) ingredients, a useful remedy for disease, instead of a means of destroying life.

"Taking this view of the subject, my own plan of treament, in cases of Acute Tetanus, has been, and always will be, to exhibit the most powerful remedies, in every possible way, until the constitution becomes obviously effected by them, and not to begin by half-measures. If, therefore, the stomach appears incapable of conveying the influence of a remedy to the brain and nervous system, I consider it right to make use of it in the form of an enema; and, failing in my object, then I would introduce it into the veins by means of injections. I have never yet had a case under my care in which the last mode of treatment became necessary; for, by the use of strong enemas, I have always been able to accomplish my purpose; though in most cases of Chronic, and in all cases of Acute Tetanus, without finding that the obvious and powerful impression, produced upon the system by the use of remedies, was of any avail in checking the progress of the disease.

I have of course met with a few exceptions; but I do not feel justified in recommending as remedies the medicines which appeared beneficial in these instances; for, in other cases I have found them perfectly inert. Of one thing, however, I feel confident; namely, that more hope of relief is to be expected from a steady perseverance in the use of one remedy than in wavering or confused practice. By a wavering practice different medicines are changed daily, and even hourly; and by a confused one, all manner of powerful agents (sometimes producing opposite effects) are thrown into the stomach together, without rhyme or reason."

LXXVIII.

On the Phenomena of Hearing.

"A gentleman was slightly deaf, but with the aid of a trumpet he could hear tolerably well; sufficiently to enable him to collect every word uttered in the debates in the House of Commons. He could distingush sounds best with the left ear; and into this the point of the trumpet was generally placed. On the occasion of a more than ordinary subject being debated, and his attention completely engaged, his trumpet was accidentally and suddenly thrust into the meatus, to some considerable distance, which caused great inflammation; the effects of which rendered him incapable of ever hearing again with that ear; and the other being so much impaired as to incapacitate him, but with the greatest difficulty, from carrying on a conversation even with the use of the trumpet. I have observed him frequently to apply one extremity of a cane to a piano and other musical instruments, and to place the other between his

teeth, and by this conductor to distinguish with great accuracy which was being performed. This means of assistance did not long avail; for after a while, and to the time of his decease, (which was some years after this accident,) the conductor became useless, for by it he could neither hear note nor tone."

"A plan which Mr. Abernethy used to recommend to be adopted for the removal of peas and such like from the meatus, and which I have more than once found useful, was that of placing the side of the head, on which the ear is situated that contains the pea, on a pillow, holding it close whilst the pillow is struck with considereble force, thus to shake it out as it were. I have removed a cherry-stone and a glass bead in this manner. Peas become moist, and swell if they remain any length of time in the meatus, and produce excessive pain, and are with considerable difficulty extracted. The hardened cerumen, if it has long existed in such a state in the meatus, requires some time before it can be completely removed by syringing; and a plan to be observed is, to moisten the meatus and cerumen with a few drops of oil a day or two previous to using the syringe; and a common syringe is of no utility whatever: the one recommended by Mr. Abernethy (and which bears, as characteristic of its superior merits and its inventor, the name of 'Abernethy's Ear Syringe'), is much the best for the purpose."

"The Eustachian tube is sometimes nearly obstructed at its pharyngeal extremity by enlarged tonsils. I remember a case of this kind when House Surgeon of St. Bartholomew's.—A young woman was admitted with enlarged tonsils, which enlargement had existed from birth,—at least she had been deaf in some degree since that period; but when she was admitted as a patient her hearing was much more impaired than it had ever been till within a short time previous. She had had remedies innumerable applied to her ears, and the adjacent parts; such as blisters, setons, various sorts of medicaments applied within the external meatus, syringings, &c. &c. Mr. Lawrence, however, saw that the affection originated from pressure on the pharyngeal orifice of the Eustachian tube, by which it was made impervious, and recommended the incision of the tonsils. The operation was performed by him, and the deafness was immediately and completely removed."

The preceding Extracts are from an ingenious Essay on the Physiology of the Organ of Hearing, by Mr. Caswall, of London. It evinces very considerable research, and is creditable to the author's industry and zeal.

LXXIX.

On a Singular Affection of the Organ of Language, produced by the Action of Morphia. By William Gregory, M.D. F.R.S. E. Sec. Phren. Soc.

"There can be no doubt that different remedies produce different effects on the mind as well as on the body; and, if medical men, acquainted with the principles of Phrenology, were to direct their attention to the action of remedies on the minds of their patients, a new and interesting field of inquiry would be laid open, and much light would probably be thrown on many obscure points in the history of mind.

Every one is familiar with the fact, that ardent spirits excite strongly the feelings of those who indulge in them. It is stated in the works on Phrenology, that the predominant organs are commonly excited more than the others; but I think we must all have observed, that this excitement is most frequently observed in the lower propensities and the sentiments, while the intellect rarely participates in it.

On the other hand, the intoxication of opium is generally manifested by an increased vividness of intellectual perceptions, without that activity of the lower propensities especially Combativeness and Destructiveness, so often observed in ordinary drunkenness.

It appears to me, then, probable, that the action of alcohol is directed more to

the posterior, and that of opium to the anterior, part of the brain. But opium is a substance so complex, that we can hardly draw accurate conclusions from observations on its action, unless those substances which it contains be separated from each other, so as to avoid the confusion arising from different and even opposite actions going on at the same time.

When morphia, the most active ingredient of opium, is purified and combined with an acid such as sulphuric or muriatic, the resulting salt is an anodyne of very great power and uniformity in its operation: and it seems to me to produce effects on the mind which are well worthy of being studied with attention by those who have the opportunity.

The results which I have the honour to offer to the Society, are derived from experiments, chiefly involuntary, made on my own person.

About two years ago, while occupied in examining the opium, and especially the salts of morphia, I had acquired a bad habit of tasting the solutions; and it happened more than once, that, by repeated tastings, I received into the system a quantity sufficient to produce effects which I was at first far from attributing to the true cause. The first effect which struck me was, that, in reading, the words, which I saw distinctly, conveyed to my mind an impression which I could not define, but which was certainly different from the right one. On attending as closely as I could to what passed in my mind, I was conscious of nothing but that the words seemed to have lost their true meaning. When this effect had passed off, I was unable to recall what the erroneous impressions had been. A few days after the first occurrence of this affection, while still engaged in the same experiments, I was suddenly taken ill, and had nearly fainted. On recovering, I observed my eyes to be affected in a way to which I am subject, in common with others of my family, when the stomach is slightly deranged. This affection of the eyes consists in an unpleasant vibratory motion of zig-zag lines before the eye, rendering vision partial, and accompanied by nausea. In ordinary cases, it is soon followed by a headach, confined to behind the eyeball when the sight becomes clear. On this occasion, the affection of the eye was unusually great, which led me to predict a violent headach. In a few minutes the headach came on. It was very severe, and confined to that part of the brain situated behind the eyeballs. As soon as I could see clearly, I was astonished to find that I was affected as I had formerly been in regard to words, but to a much greater degree. Not only was I incapable of rightly reading written language, but words addressed to me conveyed a meaning different from the true one. I think also, but of this I am not certain, that a few words which I spoke were observed to be incorrect. But during the whole of this time, my mind was perfectly clear, and I was quite conscious that the erroneous impressions were confined to the faculty of Language.

I begun now to suspect that I had suffered from my imprudence in tasting the solutions; which idea was confirmed when I found that a friend who had accidentally taken a large dose of muriate of morphia, had suffered in a manner somewhat similar to what I have described, in regard to the fainting and sickness produced. This gentleman did not observe any affection of Language, but he was in a state of such complete prostration, that he lay for two days without being able to raise his head, and consequently did not attempt to read. I resolved to abstain in future from tasting solutions of opium; but, from habit, I did taste some about a week after; and, a third time, I experienced the same effects, as to language, but without the headach. Having overcome the habit of tasting, I have not since experienced any thing of the kind.

Here, then, is a very marked derangement of the faculty of Language, amounting to a dissociation of the sign and the thing signified, produced by an overdose of a salt of morphia; and, in the most severe instance, it was accompanied by violent headach in the situation of the phrenological organ of Language. But it must be re-

marked, that in the other two cases, there was no headach; and that I frequently had headach in the same situation, from derangement of the stomach, without *observing* a similar affection of language. It by no means follows, however, that this affection did not exist.

A very interesting question now arises, viz. What is the effect of a moderate dose of the same medicine? And, in my own person, I can state distinctly, that, in this case also, the faculty of Language is affected, but in a very different way. If I take from twenty to thirty drops of the solution of muriate of morphia, it produces, in the course of an hour, a very agreeable state of calm; and, for some hours after, the organ of Language is so strongly stimulated, that, so far from having any hesitation in finding words, I find it difficult to stop when I begin to speak; and I have repeated this experiment, which is attended with no inconvenience, so often, that I am quite confident of the result.

Dr. Montgomery Robertson, in a paper on the salts of morphia in the Edinburgh Medical and Surgical Journal, recommends the muriate to nervous people who have to make an appearance in public, on account of the calm collectedness of mind which it produces. I am disposed to concur in this recommendation for another reason, viz. the stimulus which it affords to Language.

I am inclined to believe, that all the intellectual organs participate in this stimulus. At all events, when under the influence of this drug, I have always observed an increased flow of ideas, and a greater power of following out a train of reasoning; and I have never experienced from it any excitement of the lower propensities. I have often had occasion to remark, that, even when the muriate of morphia does not cause sleep, the patient rises refreshed, although the intellect has been actively employed all night. It appears as if, to use a strong expression, the mind was awake while the body slept. This remark is confirmed by the experience of others.

I consider it, therefore, probable, that the action of morphia is directed to the anterior lobe, and, in some individuals, more particularly to the organ of Language, and that an overdose causes entire derangement of that faculty. These conclusions will have to be confirmed, or otherwise, by the observations of intelligent practitioners. Since writing the above, my attention has been drawn by Mr. Simpson to the description of the effects of opium contained in the 'English Opium-Eater,' and Madden's Travels, both analyzed in this journal.* I shall only remark here, that, in the English Opium-Eater and Mr. Madden, all the knowing organs, except that of Language, appear to have been affected, and the propensities and sentiments do not seem to have participated in the stimulus, which affords a strong and unexpected corroboration of the conclusion to which I have been led by my own observations.

I have only farther to add, that at the time these observations were made, I was ignorant of Phrenology, and knew nothing of the seat of the various organs, and consequently was utterly at a loss to account for the phenomena.

In my head the organ of Language is *rather large.*"†

LXXX.

INSTITUTE OF FRANCE.

WE propose, in future, to give a short abstract of the proceedings of the Academy of Sciences and of the Academy of Medicine of the French Institute.—

Our readers will thus be regularly made acquainted with the progress and advance of medical science on the Continent, and be enabled to contrast the labours of foreigners with those of our own countrymen. It might be deemed more advisable to have begun with a new year; but the extreme irregularity of the publication of the French journals

* Vol. ii. 428, and iv. 138.

† Phrenological Journal, No. XXXV. p. 161–4.

has prevented us, and we were unwilling to have delayed our intentions for other three months.

I. ACADEMY OF SCIENCES—*Sept.*

M. Geoffroy St. Hilaire described a very singular discovery which he had made in the anatomy of the marsupial animals. He found that two canals passed from the interior of the fundus uteri, and opened into the abdominal cavity, conveying into it atmospheric air, which, by means of a very curious arrangement of the labia of the vulva and anus, had been previously introduced into the vagina and womb. The contact of the atmospheric air must necessarily have a great influence on the functions of the ovaria, and on the developement of their corpuscula. M. Hilaire regretted that, for the last two years, he had not had an opportunity of repeating his observations on any marsupial animals.

M. Baudelocque presented a new instrument which he had contrived, for the purpose of cutting to pieces in a moment the body of a fœtus during difficult labours. He had used it successfully in two cases.

October.

MILK A REMEDY FOR DROPSY.

M. Legrand adduced two cases of ascites —one complicated with hydrothorax, the other with hydropericardium, and both symptomatic of diseased heart, in which the water was quickly discharged by no other means than by drinking largely of milk, after all the class of diuretic medicines had been used without avail. In a third case, one of general œdema, supervening upon convalescence from cholera, the patient was cured by taking every morning, for some time, a few cupsful of milk. Dr. Kapeler, chief physician of the Hospital St. Antoine, narrated a case of ascites, which occurred in a patient affected with chronic enteritis, and whose health was so weak as to preclude the use of ordinary diuretics, speedily removed in the same way.

ORTHOPEDY.

M. Dupuytren, in the name of the section, or Committee of the Surgery Prizes, made a report on the essays which had been sent in, to contend for the prize of 6000 francs, offered by the Academy in 1830, for the best memoir on the following subject—"To determine, by a series of observations and experiments, what are the advantages and what are the disadvantages of mechanical remedies and of gymnastic exercises, in the treatment of the deformities of the osseous system." The reporter stated that five essays had been sent in to the Commission; but that the authors had not illustrated the subject in the manner which the Academy had desired, and that the Commission, therefore, did not intend to award the prize to any one this year; but that its value should be raised to 10,000 francs, to be given to the best memoir on the same subject in 1834.

November.

PRIZE FOR EXPERIMENTAL PHYSIOLOGY.

M. Flourens, the reporter, stated that no work purely on experimental physiology had been deemed quite worthy of the prize proposed; but that many of the memoirs were valuable and important, and that, therefore, a gold medal was awarded to each of the following authors—1. M. Carus, for a memoir on the movement of the blood in the larvæ of certain neuropterous insects. 2. M. Müller, for his researches on the structure of secretory glands. 3. M. Ehrenberg, on the organization and geographical distribution of infusory animals. 4. MM. Delpech and Coste, on the evolution of embryos. 5. M. Lanth, on the anatomy of the human testicle; and, 6. M. St. Ange, on the circulation of the blood in the human embryo and fœtus.

BLUE URINE.

This phenomena is of so very rare occurrence, that it is not even alluded to in works on the urinary secretion. In 1824, M. Fontanelle analysed some blue urine of two patients, and ascertained that the colour was owing to the presence of a hydro-ferrocyanate of iron. Soon afterwards, M. Braconnet met with a similar case; he attributed

the colour to a peculiar substance, which he called "cyanine." Since his experiments, M. Majon, professor of chemistry at Geneva, and M. Cantri, professor at Turin, have detected the ferro-cyanate of iron in blue urine. It is right to mention that Fourcroy, many years ago, detected this salt in the urine of a woman who was subject to frequent and strong convulsions.

ADJUDICATION OF PRIZES FOR THE YEAR 1832. PHYSIOLOGY. Vide preceding Column. PRACTICE OF MEDICINE.

1. 1,500 francs to M. Rosseau for his experiments on the employment of holly leaves in agues.

2. The same sum to M. Lecanu, for his chemical researches on the blood.

3. The same sum to M. Parent, for his experiments to ascertain at what point the steeping of hemp is injurious to health.

4. 4,000 francs to M. Manec for his work on the ligature of the arteries.

5. 2,000 francs to M. Bennati, for his researches on the voice.

6. 4,000 francs to M. Deleau for his improved method of distinguishing and treating the diseases of the ear.

7. 1,500 francs to M. Merat, for his zeal in extending the use of pomegranate bark in cases of tenia.

8. 1,500 francs to M. Villermé for his researches on the comparative duration of life, and on the frequency of disease in easy and in poor life.

9. 2,000 francs to M. Vitry-le-Français, for his discovery of the alkaline principle, salicine, and of its febrifuge qualities.

The Academy has observed with much interest the improvements introduced into the operation of lithotrity by MM. Jacobson, Heurteloup, Tanehon, and Amussat; but defer their opinion on the particular methods till next year.

SUBJECT FOR THE MEDICAL PRIZE OF 1833.

"To determine what are the morbid changes of the different organs in continued fevers; what are the relations between these changes and the symptoms of the diseases; what are the therapeutic conclusions to be drawn from these relations; and lastly, to ascertain what are the physical and chemical changes of the solids and fluids in continued fevers."—*Surgical Prize, vide preceding page.*

10*th Dec.* M. Clot communicated some observations on the Dracunculus, or Guinea-worm, as observed in Egypt. It is developed in all parts of the body, in the nose, tongue, upper extremities, trunk, and scrotum, but much more frequently in the lower limbs. In 1828 M. Clot saw a Negress, in whom a dracunculus had appeared within one of the orbits, and had caused considerable ophthalmia; it moved about between the conjunctiva and sclerotic coats, advancing from the outer canthus towards the cornea, and then turning upwards. Sometimes it could not be seen at all. The whites, who have communications with the Negroes born in Africa, are occasionally affected.

17*th.* Mr. Warden sent a table of the population of the United States of America, according to the last census of 1830. 1st. The total population amounts to 12,856,154, of which number, 10,526,058, are free whites; 2,010,629 are slaves, and 319,467 are people of colour, and free. 2d. Of the whites, 5,358,345 are males, and 5,167,299 are females; of those of colour, 153,495 are males, and 165,972 are females; and of the slaves 1,014,345 are males, 996,284 are females. 3d. Among the whites, there are 5244 deaf and dumb; among the black and people of colour, 684. 4th. Out of the whole population 3983 are blind. 5th. The total number of white centenarians is 508, of whom 274 are men, and 234 are women; being one in 20,720;—whereas, among the negroes, there are 718 men and 668 women, or one in 1450; and among the people of colour there are 266 men and 361 women, or one in every 510 persons. This difference, in respect of longevity, is very interesting.

Dr. Villermé read a memoir on "epidemics considered under their relations to

statistical and political economy." According to his researches, it appears that in thickly-peopled countries, vaccination does little more than merely displace or retard death; but in districts, where the inhabitants may at will extend the cultivation of the soil, or where their means of life exceed their wants, it really and truly has the effect of increasing the population. Even in the former case it is advantageous; because by prolonging life, it considerably augments the opportunities of production, and thus favours indirectly the increase of the population. But this effect is trifling, in comparison of what is ordinarily ascribed to vaccination.

In unhealthy localities, which are perhaps every year visited by some epidemics, as for example, those in the neighbourhood of marshes, the medium age of the inhabitants is much lower than in drier and more healthy districts; but to counteract this evil, it is found that the people are more prolific, so that the actual population is nearly on a par. In like manner, the number of births is generally found to be greatly increased, after the devastation of any passing epidemic, and the rate of mortality is at the same time diminished, the people becoming "plus vivaces, ou moins sujets à mourir."

SE'ANCE OF THE 24TH.

M. Fontenelle read some extracts from a work lately published by Professor Monjon of Geneva, entitled "Conjectures on the Nature of the Miasm of Cholera." He supports the doctrine that it is animated, or, in other words, that it consists of innumerable imperceptible animalculæ diffused through the atmosphere. This is an old hypothesis, in regard to contagious diseases, for we find that it was believed in by Lucretius, Columella, Vitruvius, Valisnerius, Lancisi, Scuderi, Hartsoeker, Adam Freer, Linnæus, Legendre, Rasori, Crawfurd, and many others.

M. Leuret informed the Academy of his discovery of the brain having a lamellated structure;—in every part, it is composed of small laminæ, which are quite distinct and inseparable from each other; and the exterior surface of the brain is formed by the union and apposition of the peripheral edges of these.

M. Pelletier announced his discovery of "paramorphine" in opium. It agrees with morphine in its elementary composition, but not in its chemical qualities;—these are so distinctive that it cannot be confounded either with the "codeine" of M. Robiquet, or with any of the other ingredients—its taste is like that of pyrethrum, and it exerts a very energetic influence on the animal economy; a small dose killed a dog in a few minutes.

M. D'Arcet read a paper on the alimentary effects of the jelly prepared from bones. For the last three years this food has been largely used at the Hôpital of St. Louis; the cooking apparatus has been in constant operation, night and day, and has supplied in that time 1,059,701 rations of soup, and 2,192 kilogrammes of fat, which is used instead of butter and lard, in preparing ragouts, &c.

Upwards of 29,000 persons have been supplied with this food, and have so much liked it, as to be unwilling to return to the ordinary diet. Thenard, the celebrated chemist, added his testimony to the accuracy of the statements of M. D'Arcet, and stated that he had frequently sent to the hospital of St. Louis for some of the soup prepared there, and had found it both palatable and very nutritious. Majendie and other physicians of the Hôtel Dieu condemned it; but probably the apparatus which has been employed there, is not a good one, or perhaps the cooks have not paid sufficient attention.

II. ACADEMY OF MEDICINE.

October.

VACCINATION. M. Bousquet, while he admitted the importance of well-formed pustules on the arm, gave it as his opinion, that the vaccine virus may effect the system and preserve it against variola, even though no pustule be formed. M. Stour stated

that some constitutions seemed to require a copious eruption of small-pox, to insure them against a second attack; if the eruption proved scanty, the patient was still exposed to the influence of infection. M. D'Epinal thought that no reliance should be placed on the preservative powers of vaccination, unless the system experience a certain degree of feverishness after the operation; and to induce this, he recommended making numerous punctures in the arm. M. Delens adverted to the occurrence of the well-marked exanthematous fevers, without any rash in the skin; this is not unfrequent in many epidemics of measles; and if it takes place with one of the exanthemata, why should it not with the others, and with vaccinia among the number?

CHOLERA. Is it communicable from the mother to the child at the breast? Four cases were adduced, and in all of these the little children escaped; in three of them, the mother recovered; in the fourth she died, but the infant did not catch the disease. Many may hence be inclined to consider the preceding facts, as a strong argument in favour of the non-contagion of cholera.

THE GUACO PLANT.

The "mikania guaco" is of the syngenebrious corymbiferous family, and of the tribe of the eupatoria. It is an herbaceous plant, although its stem rises sometimes to 30 feet. It has a strong sickening smell, which stupefies serpents. It acts as a sudorific, anthelmentic, and stomachic.

CONTAGIOUS PALPEBRAL OPHTHALMIA.

M. Piorry read a paper on an epidemic ophthalmia palpebrarum, which he observed in the Hôpital de la Pitié, last August—he considered it contagious; and stated that when ophthalmia appears in situations where typhus prevails, as in crowded and filthy lanes of a city, it often assumes a typhoid character, and is more benefited by local compression than by antiphlogistic remedies.

ON DIPHTHERITE.

This disease is closely allied to croup, and derives its name from the Greek word "diphthera," which means a membrane or skin, because a fibrinous membrane is formed upon the mucous surface of the palate and air-passages. It is epidemic in the departments of Loiret, Cher, Loir-et-Cher, Indre-et-loir, &c. &c. M. Miguel, a physician at Amboise, proposes in severe cases to perform "transversal" trachcotomy, and then to drop into the trachea a weak solution of nitras argenti. Four cases successfully treated in this way are deduced from the practice of MM. Bretonneau and Trousseau. Numérous experiments on the lower animals havé shown that the instillation of a solution of the nitrate of silver into the trachea is not very dangerous. The chief objection to the propriety of the operation arises from the extreme difficulty of ascertaining whether the false membrane is limited to the larynx, or whether it has extended into the bronchi; under the latter circumstances the practice is quite inadmissible.

RESEARCHES ON ACEPHALOCYSTES, OR HYDATIDS. By M. KUHN.

The author treats of the primitive and spontaneous origin of these entozoa within living organs; of their re-production, and their faculty of multiplying, in man by their interior surface, in the lower animals by their exterior; and lastly, of the artifice which the living power employs to defend itself against these singular beings, by forming around them cysts, which isolate them from the surrounding textures; then these cysts are filled up with a substance consisting largely of carbonate and of phosphate of lime, whereby the hydatids are gradually converted into tubercles. These tubercles are however very different from the pulmonary tubercles which give rise to phthisis. MM. Dumeril and Breschet agree with the German naturalists in considering hydatids to be merely organic productions, and not as true animalcula. Percy has seen them move; but this takes place only on the application of heat, whereas other worms

contract without this stimulus. M. Itard has long thought that hydatids are a sign of organic decomposition.

Cow-pox.

M. le primer de Tallyrand, in a letter lately addressed to the Academy, says, that the original cow-pox, viz. that which occurs on the udders of cows, has not been seen in England for the last 23 years.

School of Medicine at Abouzabel, in Egypt.

At the "séance" of the Academy on the 13th of Nov. M. Clot, the founder and director of the school, accompanied with twelve of his Egyptian "élèves" was present. These twelve foreigners have been sent by the Pacha of Egypt to complete their medical education in France. Among them, some are Ulemas, and others, although born and educated at Mecca have left their homes, wives and families, to be entered as pupils at the School of Abouzabel; an occurrence unexampled in the annals of Islamism. Their names are—Ahemi El-Rachidi Vlema. Mahomet Mansour. Ibrahim En Nabraoni. Hussein El Hibaoni. Issaoni En Nabraoni. Mustapha El Subki. Hussein El-Rachidi Vlema. Mahomet El Chabassi. Mahomet El Succari. Mahomet El Chafei. Ahomet Behit. Mahomet Ali El-Bagli.

M. Clot, or rather Clot Bey (for he has been made a Bey by the Pacha,) gave the following interesting details. "After having taken the degree of Doctor, at Montpelier, I went to Marseilles to reside, while there I was invited to go out to Egypt as a physician; I did so, and soon after my arrival in the country strongly recommended to the Pacha, the establishment of a Council of Health, on the model of that at Paris—my advice was followed, both as regarded the councils, and also the organization of hospitals in different parts. To enhance the respect due to professional men, the medical service was put upon the same footing as the military service; and the ranks in the two were assimilated. My next object was to found a School of Medicine; but what difficulties to conquer!! On the one hand how to convey to foreigners the language of a science, so full of technical terms; and, on the other hand how to commence the teaching of anatomy in a country, where the act of merely touching a dead body is deemed the most profane sacrilege. I explained my wishes to Osman Bey, who promised to communicate them to the Vice Roy; but he, although favourable to the plan, was unwilling to interfere with the religious prejudices of his people. I therefore boldly resolved to address myself at once to the Ulemas, or priests; they objected, and gave as their reason, that to cut a corpse was to inflict pain upon it; to this I answered, that if dead bodies really do feel pain, it must be much more severe to be gnawed away by worms than to be dissected by the scalpel. I also pointed out to them how necessary a knowledge of anatomy was to the right understanding and treatment of diseases, and urged the importance and dignity of a profession, at once most useful and honourable, and which would tend so much to augment the credit and influence of the priesthood. They at length consented, and forthwith I began to accustom my pupils to seeing and handling the dead body. All Cairo soon knew that dissection was practised at Abouzabel, and although the feeling against it was strong at first, reason soon overcame prejudice. At the end of the first six months, we had a public examination; and during that time were translated into Arabic, a Treatise on Anatomy, Majendie's Physiology, Begin's Surgical Pathology, the Internal Pathology by MM. Sanson and Roche, and works on Military and Naval Medicine by Percy and Kerandren, and also Orfila's book on the Recovery of Persons who have Drowned and asphyxiated. We were obliged to coin many new Arabic words to convey the meaning of the originals; and so diligent has been the Academy of translation, that now we have a vocabulary of upwards of 6,000 words, whose meaning is perfectly understood. Attached to the school, is a class of Pharmacy and of Veterinary Medicine; and we propose to add immediately

one for Midwifery, to be attended by Negro and Abyssinian women. The affairs of the school are conducted on the plan of a college, where the pupils are lodged, boarded, clothed, taught, and rewarded, at the expence of the Viceroy. Some of the pupils are Christians; and they are treated quite as well as any of the others. At the time of the glorious expedition into Syria, 250 surgeons were sent from the school to join the army; and during the disastrous invasion of the cholera, the zeal, skill, and kindness of these pupils were most nobly and praiseworthily displayed. In Cairo alone 60,000 were cut off in 29 days; most of the European residents, and among these the medical men, with the exception of two or three, fled from the place. Of the 150 pupils who gave their professional assistance, 30 died. In the village of Abouzabel 900, out of a population of 1,800 inhabitants, perished. The particulars will appear in a Memoir, which will be speedily printed at Marseilles.

The object of our present visit to France, is to complete the education of these twelve Egyptians in all the branches of medical science, and to improve their knowledge of the French language, in order to enable them to fulfil the duties of Professors upon their return home. The School of Abouzabel musters already more than 400 scholars; and out of these I selected 16 who appeared to be the most industrious and clever; four of them I left in Egypt to superintend the education of the others during our absence; and twelve have accompanied me to France. The Academy will much oblige me by examining and questioning them, that a correct idea may be formed of the progress which they have hitherto made."

Great applause followed this speech. M. Pariset explained the reason of M. Clot-Bey appearing in the Oriental costume:—"the Viceroy of Egypt (said he) has formed very exalted ideas on all matters of religion; and, in testimony of respect for M. Clot's great services, he has honoured him with the dignity of Bey, and requested him, upon leaving Egypt, to bear the garb and insignia of the office in France, that Europeans may know that the Viceroy can reward merit, without expecting a man to abjure his country or his religion. Thus, M. Clot, although a Bey of Egypt, remains still a Christian, and a subject of France." M. Clot added, 'that the Viceroy has uniformly treated him with the highest respect and kindness, and that he had raised the emoluments of his office, independent of those of the professorship, from 8000 to 36,000 francs.'

26th. Chégoin communicated a memoir "on some displacements of the uterus, and on the pessaries best fitted for their relief." The preference is given to the ring pessaries, as the author deems it to be of much consequence, that all pressure be removed from the mouth and neck of the uterus. The exact form of the pessary must vary with the state of the displaced parts, and the particular conformation of the patient; the same form will not answer for all; but, as a general rule, the flat, smooth, ring, ivory pessary will be found to be the best; the ring is not equally large at all points; it is better that the posterior half of the ring, or that opposite to the sacrum, be considerably larger than the anterior half.

Dr. Marie presented an interesting specimen of a carbonate of lime calculus, which had been expectorated by a young phthisical patient.

1833—SEANCE OF 8TH JANUARY.

M. Bally resumed the reading of his memoir on cholera. An instructive discussion followed, whether there be such a species of disease as dry cholera, or cholera unattended by any intestinal discharges.

M. Gerardin mentioned two fatal cases, in which no evacuations from the bowels had taken place; but all the other symptoms of the concentrated disease were present. In the first, no post-mortem examination was made; and, in the second, the intestines were found distended with the rice gruel fluid; and, on tracing the rectum, it was ascertained that for the extent of three or four inches, the gut was so much contracted,

that a goose-quill could not be passed through. Now we cannot properly admit that these were cases of dry cholera; as the characteristic secretions had actually taken place into the bowels, and were prevented from being discharged by stool, only in consequence of the spasmodic drawing-together of the rectum. Almost all the members of the Academy agreed in this view, and to none had occurred any case of the disease, in which the bowels were found quite empty after death.

LXXXI.

CALCULUS IN A CHILD EXTRACTED BY WEISS'S FORCEPS—EXTRAVASATION OF URINE—CURE.*

W. A. æt. 7, admitted Oct. 17, 1831. He had had constant pain and difficulty in making water for more than six months. For two days there had been complete retention. A sound in the urethra detected a calculus one-fourth of an inch within the posterior boundary of the scrotum, where a small circumscribed painful swelling was felt externally. Several attempts had been made to hook it hence with a probe, and to favour its escape by dilating the anterior part of the canal with bougies, &c. The bladder was now much distended, the urine had been retained for forty-eight hours, there was much constitutional excitement, and the portion of the canal where the calculus lay was inflamed, tumid, and painful. Dr. M. had seen a similar case which nearly proved fatal, and Sir A. Cooper had seen two fatal cases of the same description.

"Before attempting to grasp the stone with Weiss's catheter forceps, or to push it back behind the edge of the scrotum, and cut down upon it, I passed a steel sound along the urethra, to ascertain its exact situation. I then found that it was dislodged from its former position, and had passed back as far as the bulb,—probably by the pressure of the boy's finger during the painful attempts at micturition. From the dilated state of the canal posteriorly, the sound was easily introduced into the bladder, pushing the stone before it. Although the urethra was now freed of its irritating cause, and there no longer existed an impediment to the discharge of the urine, yet I regretted that the stone was again lodged in the bladder, in as much as the operation of lithotomy, which might be required for its removal, was a more serious procedure than cutting down upon it in the urethra. It appeared, however, that the parts were in a favourable state for attempting to seize the stone, which was evidently of small size, and to extract it through the urethra. I therefore passed, with ease, into the bladder, a pair of catheter forceps intended for an adult; and on opening their blades, gave exit to a stream of urine, which from the small size of the catheter portion of the instrument, continued to flow for a considerable time before the distended bladder was perceptibly reduced. After moving about the expanded instrument in the bladder, I could not ascertain whether the stone was laid hold of or not, until I had partially withdrawn it. It passed freely out as far as the posterior edge of the scrotum, when its progress was arrested. I then discovered, by external examination, that the calculus was between the blades of the forceps, which were separated nearly one-fourth of an inch. As the narrowest part of the canal was still to be passed, I considered that the removal of the stone by an incision in the perinæum would be the safest practice. I found, however, on again attempting to withdraw the instrument, that the resistance was comparatively trifling; and as the calculus, so far as could be ascertained by external examination, was fairly embraced, and even covered by the blades of the forceps, I determined to continue slowly and cautiously to extract it. There was some difficulty experienced about the centre of the scrotum, and at the orifice of the urethra; but this was gradually overcome without force, and a stone, broken into fragments, was extracted. The patient complained but little of pain, and not more than three or four drops of blood were lost."

* Macfarlane's Reports.

Dr. M. ordered an elastic catheter to be introduced as soon as the patient was placed in bed. In this the house-surgeon failed, and at 12, p. m. Dr. M. found that only a small quantity of urine had been passed by the penis, and that there was swelling of the scrotum, which had commenced three or four hours previously. There was evidently urinary extravasation. *Large-sized catheter passed, and to be retained—scarifications—fomentations.* On the 18th the swelling and dusky redness had increased, and extended over the pubes. *More scarifications.* On the 20th the inflammation had extended over the pubes as far as the anterior spines of the ossa ilii. On the 21st the catheter was found obstructed, and the urine passed by its side. On the 23d he had an attack of convulsions, which did not recur, and next day a small stream of urine issued from an ulcerated opening on the dorsum penis, close to the pubes. On Nov. 12th he was dismissed cured.

"When the calculus is small, whether the disease occurs in a child or an adult, I would prefer attempting its extraction by the urethra to the painful and hazardous operation of lithotomy. When it is too large to pass along the whole canal, it may be brought into the perinæum, cut down upon and extracted. For this purpose that ingenious instrument, the catheter forceps, invented by Mr. Brodie, and recommended in his valuable Lectures on 'Calculous Disorders,' as published in the Medical Gazette, is preferable to the one employed by Sir A. Cooper. It is, however, liable to several objections; the most important of which are the small size of the catheter part of the instrument, and the impossibility of ascertaining when the stone has been laid hold of. Mr. Brodie, in the only case in which he employed this instrument, states, that when the bladder was empty he endeavoured to close the forceps, but found that he could not do it, the stone being seized. I have only to add, that in the instrument belonging to this Infirmary, which was made by Weiss, it is impossible, when it is in the bladder, to ascertain whether a calculus is between its blades or not."

Last year we saw a man with calculus in his urethra behind the glans. It could be pushed backwards and again brought forwards to its former situation, but it could not be impelled by any pressure from behind through the glans. We made various attempts with probes, directors, &c. accompanied with pressure from behind to hook it out. The attempts were unsuccessful. At length we crushed it by means of a very fine pair of dressing forceps. Some swelling of the extremity of the penis and of the anterior part of the urethra succeeded. The urethra inflammation passed away speedily, but the prepuce continued much infiltrated, and after a week or so the corpora cavernosa behind the glans felt hardened. In some days more it was evident that there was a collection of matter. This was discharged by a puncture, and the opening was soon healed. The cavity of the abscess never communicated with the urethra, but whether it actually extended into corpora cavernosa, or was merely in the external cellular texture, we cannot pretend to determine.

Dr. Macfarlane relates a case of calculus in the bladder of a female child, three years and four months old. Weiss's dilator was introduced and retained for ten minutes, and subsequently the calculus, as large as a pigeon's egg, extracted with forceps. The child has recovered without inconvenience.

LXXXII.

LOSS OF MEMORY FROM OLD AGE, OR ACCIDENTS.

THE following remarks on this subject are taken from the third edition, just published, of Mr. Mayo's Outlines of Physiology.

"It has been remarked, that of the powers of the mind, the memory is the first to decay. Old age, which impairs the mind, makes its first inroad on the memory. Wine, while it raises the animal spirits and stimulates the fancy, at the same time disturbs the memory. After injuries of the head, that have eventually been followed by idiotcy, the failure

of the memory has been the first mental symptoms observed.

The failure of memory is, perhaps sometimes considered the only impairment of the mind, where in fact its other powers are likewise injured, inasmuch as an alteration is much more readily detected in the memory than in any other faculty. It is possible likewise, that in many instances it is more properly the recollection than the memory which suffers; the remembrance is not lost, but the facility of finding it in the mind: so that the change would be more justly stated to be in an impairment of the liveliness and rapidity of association. I have heard it observed of old men, that their memory has become impaired, but that their understanding has remained as strong as formerly, only slower in its operations. A supervening slowness of association would account in these instances for all the phenomena observed.

How much we may remember, which we cannot recollect, is shown by a curious class of cases, several of which have been collected by Dr. Prichard, in his work upon the nervous system, from which I shall extract the following.

"A man was brought into St. Thomas's Hospital, who had received a considerable injury of the head, but from which he ultimately recovered. When he became convalescent, he spoke a language which no one about him could comprehend. However, a Welsh milkwoman came one day into the ward, and immediately understood what he said. It appeared that the patient was a Welshman and had been absent from his native country about thirty years. In the course of that period he had entirely forgotten his native tongue, and acquired the English language. But when he recovered from his accident, he forgot the language he had been so recently in the habit of speaking, and regained the knowledge of that which he had originally acquired and lost."*

"A student at an university in the United States, who is now one of the most respectable clergymen in that country, possessed a tolerable share of classical knowledge, when the consequences of a fever, which affected his brain, deprived him entirely of his former acquisitions. In fact, he had now become so ignorant, that he was not only unable to read a Latin book, but even knew nothing of the grammar. When he had regained his bodily health, being of a persevering disposition, he began again the first rudiments: every thing was quite new to him: he passed through the accidence and syntax in his grammar, and was learning to construe, when one day, as he was making a strong effort to recollect a part of his daily lesson, the whole assemblage of the ideas which he had formerly acquired and lost, suddenly re-appeared to his mind, and he found himself able to read and understand the Latin authors as he had done before his illness."

The first thing to be satisfied of in all questions of this nature is the precise accuracy of the particular facts. We will suppose these facts to be not merely generally but altogether accurate. We do not think that Mr. Mayo has exactly stated the case. When an old man begins to lose his memory, it is well known, that it is the memory of recent events that is impaired. He remembers full well the scenes of his boyhood. In the case of the Welshman it was the language recently acquired that was forgotten; and this we believe to be usually the case after injuries of the head. Patients do not so well recollect what occured about the period of the accident, or subsequently, as that which took place at a time antecedent to it. Mr. Brodie mentions an instance of this in his paper on Injuries of the Brain. These facts seem to prove that events which have occurred, or ideas that have been formed at an early period of life, have a stronger hold upon the memory, that is, have made a more lasting impression on the mind, than those presented to it in later years.

But, in reasonings of this kind, we must always be careful not to erect words into things, nor reason on nonentities as if they

* Dr. Tupper's Inquiry into Gall's System of Craniology.

were things which have existence. What is memory? We should say it is the preservation of ideas that have been received through the medium of the senses from without, or of impressions made on the sensorium by the organic sympathies within. Now as early life is that in which the senses are most acute, and the sensorium most apt in the reception of impressions, it is not difficult to conceive that it must be more affected by those impressions, and more lastingly influenced by them, than in later years when the senses are more obtuse, and the impressions which they convey are consequently more feeble.

But this mode of reasoning is inapplicable to the case of the gentleman who forgot the Latin language, after having suffered from a fever affecting the brain, and suddenly regained the recollection of it. This, by the way, seems to us rather favourable to phrenology than to metaphysics, rather favourable to the theory that the brain is an assemblage of organs, than a whole, which, as a whole, must be affected. It is more easy to explain the case on the supposition that a particular portion of the brain was organically affected, that a slight effusion, or some other partial lesion, occurred, than on the supposition that the brain is "one and indivisible," the organ of thought, and that being affected in totality, the power of recollecting one language was lost.

We will, however, look at the case in a more metaphysical point of view. Mr. Mayo adverts to the distinction between remembrance and recollection; the former appears to be the endurance of the idea *in* the mind; the latter, the power of obtaining it *from* the mind. He explains then the case of the clergyman, by saying that, after the fever, the remembrance of the Latinity was still present in his mind, but that he temporarily lost the recollection of it. Analyse this and it explains nothing. Remembrance and recollection are arbitrary terms, and are merely representatives of certain facts. To say then that the clergyman remembered the Latin language, but did not recollect it, is simply to express the fact, is merely to affirm, in conventional language, that the case was such as it was. It is obvious that this is a sort of algebraic expression of facts, but not an explanation of them.

Neither do we think that a slowness of association is an explanation of these phenomena. What does slowness of association imply? It is a nonentity; it is merely the expression of certain phenomena; it is a relative term; which means no more than that one idea presented to the mind does not call up another idea in some degree, or in some manner linked with it, as speedily or as fully in one case as in another. To say then that the clergyman did not recollect his latinity, because he was laboring under a slowness of association, is simply to say, when the term is resolved into its elements, that he did not recollect his Latin. It drives the difficulty a little farther off, but it does no more, at least it appears so to us. For instance. The clergyman did not recollect the Latin language, because certain of the associations connected with that language did not, as under ordinary circumstances they would do, call up the ideas which constitute that language. Does this explain the matter? The memory is made to halt at one point rather than another, but after all it is made to halt, and we know no more of the wherefore or the how, than we did before. We make these remarks, not from disrespect to metaphysics, but merely to put in a prominent point of view the truth which most men, we believe, acknowledge, that when we express facts metaphysically, we simplify their expression, or we generalize it, but we do not usually explain the facts themselves. Mr. Mayo we know to be a good metaphysician, and perhaps he may smile at the imperfect manner in which we have put the case.

In our next we shall take some notice of Mr. Mayo's very interesting and useful work.

LXXXIII.

Aphonia. Dr. Webster.

Some curious cases of this affection are related by Dr. Webster in our esteemed cotemporary the Medical and Physical Journal, for September last. They occurred in the practice of Dr. W. in the St. George's and St. James's Dispensary. In these individuals, there was principally observed a peculiar affection, amounting almost to a total loss of voice, without any decided proof of disease in the larynx or glottis. From these and other cases, which Dr. W. has observed, he comes to the conclusion, that the complaint is occasioned by a paralytic state of the nerves distributed to the larynx and glottis, from pressure or some diseased condition in the cerebrum. We can only make room for one of the four cases related by this intelligent physician.

"*Case* 1. George Wright, æt. 16, groom. When first seen, this patient had an attack of bronchitis, which was, however, soon removed by the exhibition of demulcent and aperient medicines, and the application of a blister to the chest: on the 14th of January last, he was considered free from all pectoral complaints.

Nevertheless, at this period, an affection or weakness of voice showed itself; and, on the 16th, it became so remarkable that Wright could only, with the greatest difficulty make himself heard by the bystanders, being scarcely able to speak, even in the lowest whisper. Notwithstanding the presence of this symptom, he did not complain of any pain in the throat or chest, nor was there any dyspnœa; but the patient now for the first time mentioned that he had a severe headach, accompanied by drowsiness and deafness; and, on examining the pupils of both eyes, they were observed to be very much dilated, and almost insensible to the influence of light. It was from these circumstances that attention was especially directed to the cerebral symptoms, which ultimately led me to consider this affection of the head to be, in reality, a principal cause in producing loss of voice in this individual; and subsequent investigation, confirmed by the successful treatment adopted, demonstrated the correctness of the pathological views then entertained.

Five grains of the extract of conium were given at night, followed by an aperient in the morning; and a demulcent medicine was also ordered to be taken twice or three times a day.

Little or no benefit, as might be expected, followed this mode of treatment: on the contrary, the loss of voice still continued, and it was latterly even so much affected that the patient sometimes could not articulate a single word; the air during these efforts to speak appearing to pass through the rima glottidis, as if he were blowing a musical instrument, without a note being produced. It also merits observation, that if any alleviation of the pain in the head occurred, and especially if, at the same time, the pupils became less dilated, and were sensible to the impression of light, the voice invariably became stronger and more distinct, thus showing that the condition of the brain, and consequently the function of the nerves distributed on the larynx and glottis, was materially concerned in the disease; and, therefore, it appeared this affection of the head must first be removed, in order to restore the natural tone and strength of the voice.

In accordance with the above reasoning, a blister was applied to each temple on the 24th, which discharged freely, and the patient, when seen on the 26th, was found to have materially improved; the headach was almost gone, excepting over the right eye; the pupils appeared less dilated, and sensible to light, and the words, when speaking, could now be more distinctly articulated, although still in a low tone: the countenance likewise looked clearer, was not so anxious, and, to use the patient's expression, 'he felt almost quite well,' excepting the continued weakness of his voice.

Extract of conium, which had been taken for the last two nights, was continued, and an aperient mixture prescribed in the morning; at the same time more nourishment

was allowed, as the appetite and digestion had improved. On the 18th, the patient felt considerably better; the pupils contracted when exposed to a strong light, and the deafness and headach were almost removed; whilst the tone of the voice was nearly natural, and he articulated words correctly, although not strongly. A week afterwards, he had almost recovered his usual voice, had no head affection; and, when seen for the last time, in the middle of February, he was convalescent."

The other cases are equally satisfactory, and we recommend the subject to the attention of practitioners in general.

LXXXIV.

OF THE ORGANS OF THE HUMAN VOICE. By Sir CHARLES BELL, KGH. FRS., &c. &c.

SIR CHARLES BELL is always sure of being favourably received when he appears before the public as an author. We are not surprised therefore that the present Essay in the Philosophical Transactions should have attracted the notice of most of our contemporaries. We will lay an abstract of it before our readers.

Sir Charles observes, that the subject has been negligently treated, that physiologists have been too much accustomed to the consideration of parts with the view to one function only, that the human vocal organs are remarkable for their complications and combinations, and, finally, that although there is one question to which he would direct particular attention, namely, articulate language, still he thinks it best to consider all the parts of the subject systematically. He accordingly divides the inquiry into three heads;—the *trachea*, the *larynx*, the *pharynx*.

And first of the trachea.

"We read that the trachea is formed of imperfect hoops of cartilages, joined by membranes, and that it is flat on the back part, for these reasons: that it may be a rigid and free tube for respiring the air, that it may accommodate itself to the motions of the head and neck, and that it may yield, in the act of swallowing to the distended œsophagus, and permit the morsel to descend. This is perfectly correct; but there is a grand omission. Whilst all admit that a copious secretion is poured into this passage, it is not shown how the mucus is thrown off.

There is a fine and very regular layer of muscular fibres on the back part of the trachea, exterior to the mucous coat, and which runs from the extremities of the cartilages of one side to those of the other. This transverse muscle is beautifully distinct in the horse. When a portion of the trachea is taken out, and every thing is dissected off but this muscle, the cartilages are preserved in their natural state; but the moment that the muscular fibres are cut across, the cartilages fly open. This muscle, then, is opposed to the elasticity of the cartilages of the trachea. By its action it diminishes the calibre of the tube, and by its relaxation the canal widens without the operation of an opponent muscle.

The whole extent of the air passages opens or expands during inspiration; and then the trachea is also more free; but in expiration, and especially in forcible expectoration and coughing, the trachea is diminished in width. The effect of this simple expedient is to force the passage of the accumulated secretion; which, without this, would be drawn in and gravitate towards the lungs. When the air is inspired, the trachea is wide, and the mucus is not urged downwards; when the air is expelled, the transverse muscle is in action, the calibre of the tube is diminished, the mucus occupies a large proportion of the canal, the air is sent forth with a greater impetus than that with which it was inhaled, and the consequence is a gradual tendency to sputa towards the top of the trachea. In the larynx, the same principle holds; for as the opening of the glottis enlarges in inspiration, and is straitened in expiration, the sensible glottis, by inducing coughing, gets rid of its incumbrance. Without this change of the calibre of the trachea, the secretions could not reach the

upper end of the passage, but would fall back upon the lungs."

Sir C. Bell refers to experiments, illustrative of this view, which were made with another object by M. Favier. The tracheæ of birds are formed of the cartilages of complete circles, without compressing muscles. "Is this (says Sir Charles) because all the air-tubes of birds are dry, because their lungs are motionless, and because in the air respired in them there is no moisture?"

The trachea, and that part of the windpipe between the larynx and the lungs, may be looked on as the portevent, or tube conveying the air from the bellows to the reed of the organ-pipe. If this vibrated, and gave out sound, it would confuse those which proceed from the glottis. Now the imperfect circles of the tracheal cartilages and their isolation are opposed to sound; but Sir Charles conceives that the thyroid gland, placed like a soft cushion on the trachea, and strapped to it by muscles, is still more operative in producing such an effect. In birds, in which the sounding apparatus is at the lower part of the trachea, and the remainder of the tube does convey sound, the thyroid gland is absent, while the trachea itself is a firm tube, with cartilages of entire circles.

"But it is easy to prove that the trachea has no influence upon the voice. Both in the open pipe or flute, and the pipe stopped at the bottom, as the syrinx, the length determines the note,—lengthening the tube depresses the note, and shortening it makes the sound more acute. A similar effect should result from the elongation and shortening of the trachea, if the changes of the voice depended upon it: but, on the contrary, the trachea is lengthened during the higher note, while it is shortened as the voice descends, and the notes become graver.* I have no ear to determine what harmonic sounds attend the human voice; but supposing that sounds proceed from the trachea, which is shortening, at the same time that they proceed from the upper part of the tube, which is lengthening, it is clear to demonstration that the two portions of the tube can never consent to keep any proportion in their vibrations.

For these reasons I apprehend that in the structure and condition of the trachea, the design manifestly is to suffocate the vibrations of sound, and so to impede the motions originating in the larynx from being propagated downwards."

Sir Charles next proceeds to the consideration of the larynx.

He observes that the common opinion, that the glottis is the primary seat of sound, is confirmed by experiment and by every analogy.

"But to consider the motions of the glottis, and even the modulations of the air in the larynx, as the sole source of sound, would be incorrect. Ferrein described the edge of the glottis as being like the strings of the violin, and the air brushing over it like the bow. But even in that supposition, though the vibration of the string of the violin is necessary to the production of sound, yet that sound receives modification through the form and condition of the instrument. As the same chord, vibrating in the same time, will produce a sound the quality of which varies in different instruments, so will the sound of the chordæ vocales be influenced in the pharinx. As a tuning-fork, or a moveable musical instrument, will have the quality and power ot the tone changed by its position and the material with which it is in contact, so will the vibrations of the human glottis be affected by the parts above and against which the sound is directed.

The breath, which plays inaudibly in respiration, becomes vocalized when the ligaments of the glottis, or chordæ vocales, are braced so as to cause the edges of the glottis to vibrate in the stream of air. In a wind instrument, the air must be impelled

* "Fabricius ab Aquapendente, seeing the contraction and elongation of the trachea during the changes of the voice, presumed that these motions must be the cause of them. Dodart showed the incorrectness of this.

with a force to make the sides of the tube vibrate; so, in the production of sound from the human organs, there must be a certain pressure of the columns of air. But in the organs of the voice there is this superiority, that there are not only the means of regulating the pressure of the column of air, but of adjusting the vocal chords, so as to suit them to the most delicate issue of the breath. The metal tongue in the organ-pipe is, by lengthening or shortening it, accommodated so as to vibrate in time with the air contained in the tube. So is the edge of the glottis regulated; but with an apparatus for adjustment the most perfect.

Besides the adjustment of the vocal chords, there is a very superior provision in the motions of the chest which supply the air, to that of any musical instrument. Although the organ has allotted to each note a separate pipe, whose relative dimensions are proportioned with mathematical precision, yet the air propelled through the pipes can never be so regulated as it is by the combination which exists betwixt the motions of the chest and the glottis. The church organ could not be made to approach the precision of adjustment in the human organs, were there as many pairs of bellows as there are pipes, and each adjusted by a weight or spring, to accommodate the pressure of air to the dimensions of the pipes."*

Sir Charles next describes the glottis; it is not necessary for us to follow him in that description. He thinks that the sacculus laryngis has much influence on sound, and, setting aside certain anatomical considerations, it appears to him that the ear-piercing cries of such animals as the Beelzebub ape, in which this cell is large, confirm the notion. Sir Charles has repeatedly witnessed, after wounds in the throat, the motions of the glottis in man, both during simple breathing and in speaking. On every inspiration the glottis is dilated; on the patient's attempting to speak, the glottis has moved as well as the lips, and the motion has been in correspondence with the efforts of the other organs of voice.

"We have already understood the necessity of the tongue of the organ-pipe being adjusted in its length, both to the force of the wind from the bellows, and that it may vibrate in correspondence with the column of air in the tube. Granting that the analogy between this instrument and the organ of the voice is just, we must acknowledge the very superior means possessed by the living parts, of drawing out the margin of the glottis, to that by which the tongue of the organ-pipe is adjusted.

If we should adopt the fancy to compare the membrane which is stretched over the ligament to a drum, then the arytenoid muscles would be the braces to tighten the membrane, and the ligaments would be as the snares on the reverse of the drum. But all such comparisons serve to show that, taking this portion only of the apparatus for the voice, it surpasses every instrument in the property of accommodation—of sounding in unison with the rest of the tube, and with the column of air."

Sir Charles passes to the pharynx. Its anatomical characters we may omit.

The breath is vocalized, it is acknowledged by the larynx, but the musical notes, in singing and the vowels in speech are affected by the form and dimensions of the pharynx. When a person who has divided the pharynx and exposed the top of the wind-pipe attempts to speak no sound issues from the larynx, though by great effort a noise may be produced. There can be little doubt that the vibrations necessary to articulate language are influenced by the condition of the walls of the larynx.

"In this part of the air-passage we shall find an exact correspondence with the flute or pipe, in as far as it is lengthened during the grave sounds, and shortened in the acute. Even if it were proved that the note is made to rise and fall by the contractions of the glottis, the great apparatus employed to move the pharynx cannot be useless. We are countenanced in concluding,

* "Which is attempted in some automata."

that as the tube of the organ is adjusted to the reed, so is the condition of the pharynx made to correspond with these contractions of the glottis. It is impossible to see a singer running up the notes to the highest, without admitting that there must be a powerful influence produced through the alternate shortening and elongation of the pharynx and mouth. To allow the cavity to be shortened in the greatest degree, the larynx is raised, and the lips retracted; on the contrary, the trachea descends, and the lips are protruded, to lengthen the cavities, and to give out the lower or graver notes."

Of Articulation.

In pronouncing the simple continued sounds, the vowels, and the dipthongs, the pharynx, says our author, varies its form or dimensions without interrupting or cutting the sounds. But Sir C. undertakes to prove that in articulating or forming the consonants the pharynx is a very principal agent, and that this smaller cavity is substituted for the larger cavity of the chest, to the great relief of the speaker, and the incalculable saving of muscular exertion. It is on the principle of the hydraulic press that this is effected, on the principle that its piston being loaded with a weight of one pound, the same degree of pressure will be transmitted to every part of the surface of the reservoir, equal in magnitude to the base of the piston; and vice versâ, that, supposing the power to be employed on the reservoir for the purpose of raising the piston, it would require the weight of a pound on every portion of the superficies of the reservoir, equal in extent to the base of the piston, to raise the piston with the force of one pound. Our ingenious author gives many illustrations from the human body of the operation of this law. We regret that we cannot notice them. However, it is by virtue of this law that the muscle of the glottis, not weighing a thousandth part of the muscles of the trunk of the body, is able to counteract them and close the glottis in spite of the operation of those muscles that tend to expel the air from the chest. Thus we may be enabled to understand that much is gained if the "appulse" necessary in articulation be given to the pharynx, instead of by the greater cavity of the chest.

In a patient in whom the bones of the upper part of the face were lost, Sir Charles Bell saw the operation of the velum palati. During speech it was in constant motion, and when the explosive letters were pronounced, the velum rose convex, so as to interrupt the ascent of the breath in that direction; and as the lips parted or the tongue separated from the teeth or palate the velum recoiled forcibly. The next is a long quotation and yet we know not how we could abridge it.

"In speaking, much of the sound, as of the vowels and dipthongs, is the uninterrupted issue of the vocalized breath, modulated by the passages, and differently directed, but not checked or interrupted. The consonants are the same sounds checked by the tongue, lips, or teeth. At the moment of this interruption, the pharynx being distended, is prepared to give an appulse by its muscular action exactly in time with the parting lips.

If we grasp the throat whilst speaking, so that the fingers embrace the bag of the pharynx, we shall feel that each articulate sound is attended with an action of the pharynx; and preceding each explosive letter, we shall be sensible of a distention of the throat. By a close attention to the act of breathing, we shall perceive that whilst the distended chest falls gradually and uniformly, the bag of the pharynx is alternately distended and compressed in correspondence with the articulated sounds.

We can now conceive that if each appulse of the breath in speaking arose from the action of the chest, it would be attended with great and unnecessary exertion; since in proportion to the size of the reservoir and the smallness of the tube that gives issue, would be the force required on the sides of the reservoir to produce an impulse along the tube. If each consonant and accented syllable required the action of the whole thorax, we should find that a man, instead of being

able to deliver an oration of some hours in length, would be exhausted in a very few sentences; like a person who bellows and gives pain by the violence and consequent ungracefulness of his action.

If we enter into a more particular examination of the formation of consonants, we shall perceive that, without the action of the pharynx, those letters must have been mutes, which, through its operation, do in fact give the greatest force and distinctness to language. The circumstance which I have to notice could not altogether escape the observation of grammarians. They speak of the guttural sounds as belonging to the production of certain consonants. Bishop Wilkins expresses this by referring to that *murmur* in the throat before the breath is emitted in pronouncing these letters. Thus grammarians distinguish the mute letter P, which has no sound previous to the parting of the lips, from B, which has a guttural sound before the explosion of the lips.

Had the cause of this sound been investigated, these ingenious men would have presented the subject to us in greater simplicity. 'This guttural sound,' they say, 'is produced by a compression of the larynx or windpipe:' but this has no meaning, and cannot pass for an explanation. This murmur, like all other sounds, proceeds from the vibration of the glottis; but as we have seen, the glottis cannot vibrate without the ascent of the breath through it;—how then is this murmur to be produced when the mouth is closed, and there is no aspiration? The air ascends because the bag of the pharynx, or arrièrebouche, is filling. It is during the distension of the bag, that the breath ascends and produces the sound which precedes and gives the character to some of the explosive letters; and it is this preceding murmur which distinguishes these letters from others, produced by the same position of the 'organs' in the mouth, but which are mute or nasal. Thus the triad of consonants D, B, G, (hard), are called semimutes, because, without the assistance of any vowel, they are attended with a faint sound, 'which continues for a little time.' The letters T, P, K, are produced by the same position of the organs in the mouth, but they are preceded by no murmur; and therefore it is they are called mutes; whereas, in D, B, G, the pharynx fills, preceding the parting of the lips. It is this filling of the pharynx, and consequent murmur in the glottis, which gives reason for the grammarians to say that these letters, D, B, G, are accompanied with a sound, though not joined to a vowel, and to call them semimutes.

Grammarians admit 'that the mouth is not the proper organ for producing sound, but only the organ for modulating and articulating the specific sounds;' and having explained the formation of the vowels, they proceed to the formation of the consonants, accounting for their peculiar sounds by the position of their lips, tongue, and palate.

We perceive that their explanation must necessarily be imperfect, owing to their ignorance of the anatomy, and especially of the action, of the pharynx. For example, P, B, and M, they say, are consonants formed by the application of the lips to each other: but this leaves the peculiar character of each letter unexplained, since all three are formed by the lips. The real difference is this: P gives no sound previous to the parting of the lips; it is the vowel abruptly sounded by their separation. B, differs only in as much as the sound precedes the opening of the lips in the manner I have just explained; and as the pharynx, after being distended, contracts and forces open the lips, this letter is very properly called explosive. M, too, is in part owing to the articulation through the lips; the sound, commencing in the vowel, is interrupted by the shutting of the lips; after which it continues in a murmur; with this differerence from the guttural murmur,—that it ascends into the cavities of the face, the velum being lifted. The same difference is shown in other letters, as F and V. If we attempt to articulate certain letters in a whisper, we shall find how much the distinctness depends on the swelling of the pharynx. In a

whisper it is with much difficulty that we can distinguish P from B, or T from D, or G (har ') from K.

Thus we see that the consonants, classed according to their formation in the mouth, have varieties consequent on the action of the pharynx. 1st, The consonants formed by the closed lips; 2nd, Those formed by the meeting of the lips and teeth; 3rd, Those formed by the tip of the tongue and palate; 4th, Those formed by the dorsum of the tongue and palate. All of these admit of variety by the operation of the pharynx and velum; viz. they are mutes, explosive semimutes, and nasal liquids. For example, taking the position of the tip of the tongue against the teeth as forming a consonant, we have T, the mute; D, the semimute, in which the sound precedes the explosion; and N, the sound which rings through the nasal cavities after the closing of the passage through the mouth.

From the same misconception of the action which combine to form the voice, it may be, that grammarians do not give us a very clear account of emphasis and accent. We perceive that there are two sources of the force with which the words are uttered, —the chest, and the pharynx. The emphatic delivery of several words or syllables must proceed from the forcible expulsion of the breath by the effort of expiration; but the emphasis on the single syllable, and the forcible enunciation of the letter on which the clearness and distinctness, and sometimes the meaning, of words depend, must be produced by the effort of the pharynx."

Sir Charles Bell next advances 15 facts, as proofs of the correctness of the opinions advanced. The conclusions which he draws from the facts in question are these; 1st, That the trachea gives no sound of itself; 2nd, That when the passage of the trachea is much encroached upon, the column of air is not sufficient to move the cords of the glottis; 3rd, That whatever interferes directly with the motion of the glottis, reduces the voice to a whisper; 4th, That when the larynx is separated from the pharynx delicate sounds are not produced, and therefore an influence of the pharynx upon the stream of air is necessary to the production of such sounds; 5th, That any permanent opening or defect of the velum which shall prevent the distention of the pharynx and the closing of the passage of the nose, renders articulation defective; 5th, That the removal of the cells of the face, equally with their obstruction, deprives the voice of its body and clearness; 7th; That in nervous relaxation of the muscles of the throat, there is sound, but its nature evinces how much the proper action of the muscles is necessary to the voice.

Sir Charles Bell concludes with a summary of his opinions. It would really be a pity to omit it, and this with the quotations we have already made, and the proportions of which we have given an abstract, will put our readers in possession of, we might almost say, the whole of this very ingenious and highly interesting essay.

"It is curious, and not without its use, to observe how many parts must conform, and how many actions accurarely correspond, to produce the simplest sound; and how many additional combinations there must be for the formation of articulate voice.

As we may audibly breathe through a trumpet without producing a note of music, so we breathe without the tremor of the glottis to produce voice properly, but only the whisper. To vocalize the breath, there must not only be a certain strength of impulse in the column of air, but there must be an adjustment of the vocal cords in the glottis. The mere impulse of the breath, however forcible, as in sneezing, does not necessarily move the chords of the glottis.

The chordæ vocales being strung by the action of their muscles in correspondence with the forcible expulsion of the breath, they vibrate; this vibration is reverberated on the column of air; and by an adjustment of the passages above, there is correspondence between the motions of the glottis and the vibrations of the column of air. The breath, thus vocalized, forms the several open sounds or vowels by the change or modulation of the passages; for by the

more or less contraction and dilation of the tube, these sounds are modified; the vibrating air being differently directed, and impelled against different portions of the tube.

The musical notes are in the same way produced by changes in the force with which the voice is propelled, the degree of tension in the chordæ vocales, and the modulation or change in the form of the open passages. There is nothing more surprising than the precision with which the notes of the human voice are produced, as when we hear it rising above the sound of the church organ, the notes more liquid and distinct, and descending in a solfeggio of notes and half-notes, as if each arose from a different pipe, or were struck on a distinct instrument. Yet these falls are consequent on muscular action which alters the diameter and form of the glottis, and the length and diameter of the pharynx. This minute accommodation does not merely evince the perfection of the organ, but shows a most surprising command possessed over it: and in this respect the muscular apparatus of the throat does not yield in comparison with of the eye itself.

Struck with the perfection of the human voice, its precision, expression, and variety excelling the finest instruments mathematically constructed, we have more to admire in the production of those conventical sounds which become the instruments of thought and the source of all we know. Articulation results from a still more complex action of the organs of voice. In speaking, the voice is much influenced by the modulation or varying forms of the open passages, before it is articulated in the mouth; whilst with each motion of the tongue or lips there is a correspondence in the action of the velum and pharynx: so that the compression of the thorax, the adjustment of the larynx and glottis, the motions of the tongue and lips, and the actions of the pharynx and palate, must all consent before a word be uttered.

There is one part of the subject which I have omitted in the body of the paper. In speaking, the play of the chest is not the same as in the common act of breathing: the diaphragm is used less, and the ribs a great deal more. A man, preparing to speak, elevates his chest, whilst the abdomen is drawn flatter; the effect of which is to give more play to the elastic cartilages of the ribs, and the falling of the elevated chest is easy and unembarrassed; whereas, to expel the breath beyond a certain degree, requires the action of the muscles of expiration, and makes the act of speaking still more complicated.

When we think of the number of parts which must combine in office to produce the simplest articulate sound, we see the necessity for a corresponding intricacy of nervous connexions, and are less surprised to find the voice defective through derangement of the nervous system. In a person who stutters, the imperfection is obviously in the power of combination, not in the defect of any single part. Whilst he cannot combine the murmur from the glottis with the action of the pharynx, he can speak in a whisper; that is, he can articulate the faint sound of aspiration, whilst he cannot at the same time vocalize the breath. So he can sing his words without hesitation, or spasm; because, in singing, the adjustment of the glottis and the due propulsion of the breath by the elevated chest, are accomplished and continue uninterruptedly. Neither does he experience any distress in pronouncing the vowels and liquid consonants, for the same reason: and if he study to commence his speech with a vowel sound, he can generally add to the vibration already begun, the proper action of the pharynx. Another necessary combination distresses a person who stutters, I mean the actions of the expiratory muscles and those of the throat. He expels the breath so much in his attempt at utterance, that to produce a sound at all, the ribs must be forcibly compressed. To remove this necessity, if he be made to fill his lungs and elevate the shoulders, the elasticity of the compages of the chest will come into play so as to expel the breath without efforts and he will speak with comparative acility and comfort. Accordingly, to com-

mence speaking with the chest fully inflated, to pitch the voice properly, to keep a measured time in speaking, and to raise the voice on a liquid letter or vowel, are some of the common means recommended for the cure of stuttering; and they are certainly those which tend to overcome the difficulty in combining the organs of speech when the defect arises from no disorder or malformation of these organs taken separately."

Sir Charles Bell concludes by observing, that he hopes he may be indulged in a future attempt to unravel the nerves of the neck and throat. We cannot part from the subject without expressing a hope, that this able physiologist will long continue to delight the profession by his original and philosophical investigations.

LXXXV.

History of the Glasgow Royal Infirmary. By *Moses Stephen Buchanan*, M. D, &c. Glasgow, 1832.

This is really an interesting history of an institution of an extremely valuable character. But, interesting as it is, we do not draw attention to it as a history, but because the excellent and able author has mooted some points important to us all. We shall leave to our good friends in Glasgow the rise and progress of the Infirmary to maturity, and merely notice those points, which, as we have already mentioned, touch the interests or feelings of the whole medical community.

The medical periodical press has, of late years, been urgent in its exhortations to hospital surgeons and physicians, to publish reports of the cases which have come under their notice. Some it has coaxed, and some it has kicked, and what between friendly remonstrances and opprobrious denunciations, many clinical reports have been given to the world. It is a mere act of justice to the surgeons of Glasgow to admit that they began soonest, and have persevered longest, in what cannot but be considered as the good work. This is a tribute which we award to them with great pleasure; and we do it the more openly for this reason. In one way or other, a considerable prejudice has arisen, of late years, against the medical officers of our charitable institutions, and particularly of our hospitals. We will not stop to enquire, at present why this should be the case, suffice it that it is so. Dr. Buchanan observes—"I know full well, that the task devolved on the physicians and surgeons of this and all similar establishments is one of great responsibility—and in these days of surgical radical reform, it requires no small degree of fortitude, and conscious rectitude, to withstand the lashes which have of late years so fearlessly, so unmercifully, and so ignorantly been applied to hospital surgeons in mass." The worst of it is, that the feeling is rather gaining ground than declining; and whatever may be the cause, the prejudices against hospital surgeons and physicians, particularly in this metropolis, are undoubtedly and deplorably general.

Now the best means of correcting such prejudices are the adoption of measures calculated to impress on the public the belief, that the gentlemen in question have the interests of science and of the profession at heart. Amongst these means, we may fairly include the publication, on an extended scale, of clinical reports; and this brings us back to Dr. Buchanan and the Glasgow Infirmary.

In the Report of that Infirmary for 1827 were the following remarks:—"It having been long matter of regret, that the Reports of the Infirmary had not been rendered so available as they might be to the purposes and improvement of the Glasgow Medical School, it was resolved in 1826, by the Directors of this Hospital, that in future, besides the usual annual record regarding the income and expenditure of the charity, another should be prepared strictly professional, or devoted solely to the medical and surgical details of the hospital."

In accordance with this plan, the following resolutions were adopted by the Directors.

"Ist, That, for obvious reasons, it becomes highly desirable that as much light as possible be thrown on the nature, localities, usual progress, and termination of the diseases received into the Infirmary, from Glasgow and the wide district around, so that materials be annually furnished for a medical and statistical history, or medical and statistical tables of the state of health and disease in the said city and district.

2d, That with this view, each Physician and Surgeon, more especially each *Physician*, besides noting, as usual, the names and ages of his patients, be requested also to specify, the following particulars; their trade or occupation, their place of residence, —if in Glasgow, what part of the city; if in the country, what shire or county; whether their abodes be in dwellings apart from others, or in hamlets consisting of a few houses, or in towns or villages; with remarks, if such occur, on the healthfulness or unhealthiness of the situation.

3d That, in order to procure an accurate meteorological journal of the weather, a barometer, thermometer, and rain-guage, each of the most approved construction, be established at the Infirmary; that an exact note of the temperature and weight of the atmosphere, of the quantity of rain, and also of the points of the wind be taken, and recorded each day by the apothecary, or some of the clerks appointed for the purpose.

4th, That each Physician be requested to lay before the medical committee on the last days of December, a list verified by his signature, of such diseases as he has treated during the preceding year, with the results as to complete recovery, partial amendment, or death. That each surgeon be requested to deliver at the same period, a similar detail, also verified by his name, and embracing the same circumstances, together with a list of operations performed; also, if the operation admitted of different modes, specifying the mode pursued; as, for instance, if amputation, whether by the circular incision on the flap; if lithotomy, the particular mode preferred, and the instruments employed, &c."

Dr. Buchanan goes on to state that—

"In accordance with the above resolutions of the Directors, a short sketch of the medical and surgical practice of the Hospital was given in the annual report, for the year 1827, and had a similar effort been made in succeeding years, the most valuable results would have been the consequence; most unfortunately, however, a blank took place in the year 1828, and the previous darkness, in regard to the first of these important branches of statistics, has ever since brooded over this great medical storehouse. Not so, however, with regard to the surgical department of the Hospital. The records of the house, 'tis true, do not contain any account either of the surgical or medical practice, after the above period; but the commencement of the year 1827, the Glasgow Medical Journal started into existence, and has continued ever since to flourish, and in its pages may be found the accumulated experience of all the surgeons who have since successively appeared on the Glasgow Hospital arena."

It is much to be lamented that a plan, in principle allied to the above, is not adopted in every public hospital in the empire; it is much to be lamented that the medical officers of those institutions do not exert themselves to carry such a plan into effect; and it is to be lamented not only for the sake of science, but for that of themselves. The usual annual reports that emanate from our charities are, professionally speaking, but so much waste paper, hardly interesting to the lay governors. A statement of receipts and disbursements, an eloquent eulogy of all concerned, a flourish about Providence, and a quotation from St. Paul, and the pith and marrow of most of them. Let such reports continue to be addressed to the Governors in general, but let us, for God's sake, have something more substantial for ourselves.

Such Reports, Medical Reports we allude to, should comprise a general statement of results, and a series of particular facts.

The one enhances the value of the other. Whether such Reports should be annual or quarterly, the aggregate of the practice of all, or in turns the record of that of each, we will not at present stop to enquire. Let the medical officers be once persuaded to recognize the principle of medical reporting, and the details will be an after and an easy consideration. Dr. Buchanan makes one or two suggestions with which we must drop the subject for the present.

"In the preface to this work, I remarked, that in making up these surgical Reports for the Glasgow Medical Journal, every surgeon was allowed to consult his own judgment, as to the cases he might deem of most interest, and this liberal scheme I highly approve of; but here my commendation must terminate, for, with one or two exceptions, no tabular lists have been given of the diseases treated, operations performed, or inspections made under the eye of the attending surgeons or clerks. Now, if it is allowed me, I would here suggest the propriety, in future, of every surgeon giving, as an index to his report, 1st, An accurate list of his cases and the results, 2d, A table of his operations and their termination, and 3d, A list of his deaths and the inspections. By a comparison of these, one year with another, one might, at some future period, be able to judge of the success of this or that mode of treatment, or of operating, and thus results of the utmost value might be brought forward. I am well aware of the additional labour, which such a task would impose upon the attending surgeons, whose time is so precious; but even granting that such individuals could not take so much trouble, or *would* not, still, the above interesting tables might be, with much accuracy, drawn up by the surgical clerks of the Hospital, and for all statistical purposes, they would be of equal value to those penned by the surgeons themselves."

The next point on which we touch is that of clinical lectures. Of the advantages to be derived from good clinical lectures there never has been and there never can be any question, nay, more, wherever, and whenever good ones are delivered there will always be a disposition evinced by pupils to attend them. If clinical lectures are ill attended we may feel assured that some error somewhere exists. We are not sufficiently acquainted with the economy of our London hospitals to venture to pronounce how the system of clinical lectures works in the metropolis, but of the general truth of the observation we have made, we entertain very little doubt. The plan adopted in the Glasgow Infirmary has been this.

"At various periods during the history of the Glasgow Royal Infirmary, I have remarked that attempts were made to establish regular courses of clinical lectures, but in consequence of the discordant opinions of the two licensing bodies of this city, these instructive practical courses were never, till the year 1829, duly enforced. The Directors of the Royal Infirmary, however, steering clear of both the above parties, in their most unprofessional warfare, judiciously determined to act for themselves, and in their turn became legislators for the benefit of the pupils of this valuable practical school. Accordingly, a senatus consultum of the Directors was promulgated, during the year 1829, of a more important nature than any other recorded in the Hospital history, it was as follows: 'That all students feeing the Infirmary, should also, at the same time, be obliged to fee the courses of clinical medicine and surgery, which thereafter were ordered to be regularly delivered by the attending Physicians and Surgeons on the cases under their charge in all the medical and surgical wards of the establishment.'"

We are for our own parts averse to these compulsory attendances, especially where money is required for them. We are well aware that it will not do to leave all to the discretion and industry of youth, and none are more thankful in after-life for salutary compulsion than those who have submitted to it. But whenever men are forced to pay others for what they may or may not require or wish, an imputation always lies against the remunerated parties, and it is difficult, if not impossible, to

divest the public of the idea that they partake of the characters of a selfish monopoly. Such a suspicion against teachers is injurious in a double sense, injurious to the teacher and injurious to the taught.

All that is necessary to secure attendance on clinical lectures, and to effect the good which such lectures can effect, is to attend to these two important considerations;—first, that the lectures be good, and, secondly, that means be adopted for rewarding the diligent, and showing the careless that they suffer from their carelessness. All other methods are but dangerous nostrums or idle expedients, that stop one hole and make another.

But how are these desiderata to be obtained? In reasoning easily enough, in practice not so easily. The great security for good clinical lectures, is a good system of election of the lecturers. If the latter be appointed to hospitals without reference to merits or popularity, it cannot be expected that their lectures should be in general popular, and there is the source of the evil. But which is the good system of election, and where is it to be found? Is it in London, or in Glasgow, or in France—by interest, relationship, or by the *concours*? Is its essence favouritism, or nepotism, or public examination, or what is it? We may hereafter look at this question more narrowly.

There are not so many obstacles in the way of rewarding the diligent, and virtually punishing the idle. But of this more presently. In the mean time we will return to Dr. Buchanan. Speaking of the advantages accruing to the pupils of the infirmary from concentration of cases within it, and the out-patient system pursued by the medical officers, he goes on thus:

"There is also another great advantage attending the surgical practice of this Infirmary, which I believe exists no where else, I mean the election from among the pupils, *without fee*, of ten dressers, each quarter, to assist the Surgeons. When this free education is compared with the £52 10s. premium for the obtaining of a dressership to some of the London Hospitals, the result ought to tell on the education of the Glasgow pupil. I might say much here, also as to the care with which the cases, admitted into the Hospital, are recorded in the journals, and daily reports taken at the bed-sides of the patient, often of themselves forming a good clinical lecture. These, the pupil of this infirmary, has not only an opportunity of seeing in the hands of the clerks, who accompany the medical officers in their rounds, but also may be perused by them during four hours of the day in the Hospital. The operations and inspections also are most punctually advertised, in a conspicuous place in the pupil's room, the day before they occur; and at the top of every patient's bed, may be remarked, on a small card, his name, date of admission, disease, diet, treatment, &c.

Dr. Buchanan goes on in another place to observe.

"It has long been proposed, that the clerkships, and all the other professional offices, belonging to this establishment, shall be obtained alone by competition or *concours*, a jury of medical men being the umpires; but I am not such a utopian as not to see faults, even in this French system of election, greater than in that which it has been proposed to supersede. One thing is certain, the talented and long experienced Physicians and Surgeons, whose names are inscribed in the interesting list prefixed to this Chapter, would, almost to a man, have scouted the idea of being tested, by any conclave of medical men, whom the Directors might, in their wisdom, have made choice of for such a purpose; and even their juniors, I am convinced, would not have condescended to be questioned in this, to them, unprofessional-like manner; besides, even granting that a jury is, in many respects, superior to that of open election, I scarcely know one single instance, in the history of this Hospital, where the directors had to regret an appointment which took place,—and unless something of this nature does occur, my opinion is, that the election of medical men, at least, should continue as hitherto. Even in regard

to clerks, I think, that the election by concours, is, in many respects, very objectionable; for it must be remarked, that all these juvenile office-bearers are, when elected, admitted, as it were, into the Hospital family circle; and unless their *private* character is correct, however superior their professional appearance may be, I am of opinion, they ought to be rejected. True it is, some young men have been admitted, by the present mode of election, into this Hospital, who have been a disgrace to those connected with them; but the security for good conduct and eminence, is greater, I think, by the open votes of the Directors, (who become, as it were, sponsors in such cases,) than by those of a medical jury; and therefore, in this respect, I would by no means counsel any change. The only improvement which I would suggest, is in regard to the price paid for bed and board annually by the clerks, which, instead of being £30. I would increase to £50. or £60. at least. Laying out of the question the advantages which these young gentlemen enjoy, in a professional point of view, the bed and board which the Hospital affords, I am convinced, cost more than the sum which I have recommended: this should not be."

Thus it will be seen that Dr. Buchanan makes it a subject of congratulation in one place that the dressers are elected without fee, and in another he laments that the fee of the clerks is not sufficiently high. We agree with the former principle, and disagree with the latter. We think that those who have paid their entrance fee at the hospital, and God knows that is often heavy enough, should thenceforward be free to all the hospital appointments open to them. But an opinion, whether it be our's or that of any other person is, as an unsupported opinion, worth not one straw.

Is it or is it not advisable to encourage merit? Is the substantial encouragement of merit the best way, or is it not, to promote industry? We will venture to suppose that both these interrogatories will be answered in the affirmative. If that affirmative be granted, and it cannot well be refused, it must follow, that to confer house-surgeoncies, dresserships, clerkships, on those who are most industrious and best informed, is a surer, and in all respects a better way of encouraging industry and promoting information, than the practice of giving them by rotation or interest, or both, on the payment of a certain premium.

But how are we to test industry and information? We answer that we should do it in the manner in which it is done at the universities, by examination. There may be objections to the examination of surgeons or physicians who are candidates for public institutions. They may not acknowledge a tribunal competent to try them. But this objection cannot lie against the examination of young men by their teachers. If they can submit to be taught they can submit to be examined, and he who comes forth best from such examination, is surely rather honored than degraded. But Dr. Buchanan objects to this, that private character should be considered as well as public fitness. To be sure it should. None whose moral character is bad should be eligible, and there would be still the same means of ascertaining moral worth or moral turpitude, and more than the same means of stigmatizing the one and encouraging the other, in the system of public than of private elections. We repeat then our firm opinion, entertained for the reasons we have stated, that no fee should be paid by pupils for clerkships, dresserships, house-surgeoncies, or any appointments of the kind, but that these should be the reward of merit, ascertained by a public examination, and encouraged in this public manner.

We purpose to return to the consideration of these questions, which are highly deserving of the attention of all who wish well to the profession.

LXXXVI.

SOUNDS OF THE HEART.

THE following explication of the sounds of the heart has been given by Dr. Billing, Physician to the London Hospital, in an essay read at the Anniversary of the Hunterian Society. The passage came under our notice too late in the quarter to make any observations on the Doctor's statement. The hypothesis (for it is only an hypothesis) is subtle and ingenious. We leave it to the determination of our readers.

"Upon applying the ear, or stethoscope to the chest of a person in health at that point where the heart may usually be seen and felt to pulsate—that is, between the cartilages of the fifth and sixth ribs on the left side, you feel a beat, accompanied by a sound, as if the sound was produced by the blow against the ribs, and immediately after a sound, rather shorter and weaker, appearing more distant, as if produced by the falling back of the body which gave the blow; there is then a pause, rather longer than the time occupied between the first and second sounds. I have elsewhere stated that the beat, or push of the heart, was between the first and second sound, which will be found to be the case, for though the first sound and blow come together, just as when a book or other hard substance is laid against the head, and struck by the hand, yet the push lasts some time,—nearly until the second occurs. Now these phenomena are caused by the ventricles and the valves, for, contrary to the opinion of the immortal Laennec, the auricles have nothing to do with the production of the sounds; the push is caused by the swelling up of the ventricular muscles in their systole to expel the blood; the first sound is caused by the tension produced in the shutting of the auriculo-ventricular valves, and the second sound is caused by the tension produced in the shutting of the ventriculo-arterial valves. The cause here assigned might be thought inadequate to the production of the sound heard, but the little instrument used by gamekeepers to call partridges, may be heard at least at the distance of a quarter of a mile, though consisting only of a bit of bladder stretched over a thimble, a membranous expansion, which is five or six times less than the valves which act together in the heart, and would give a much louder sound if not surrounded by soft parts. The first sound is loudest and longest; the second sudden, and terminates instantaneously, because the semilunar valves have a regular, defined attachment, and are smaller than the auriculo-ventricular valves, the attachment of which to the cordæ tendinæ, and their irregular shapes, render the termination of the sound less abrupt. This is a simple, unsophisticated, explanation of the causes of the beat and sounds of the heart, and you will find that the morbid signs are all explicable as alterations of these."

LXXXVII.

ST. GEORGE'S HOSPITAL.

SOME CASES OF DEATH FROM LITHOTOMY.

THE question of death from lithotomy has lately attracted much attention. It is generally believed that when death occurs within a short period after the operation, it is usually occasioned by peritoneal inflammation. In the Lectures of Mr. Brodie, published in the Medical Gazette and in this Journal, this opinion is stated to be incorrect. Mr. Brodie observes that the cause of death in such cases is diffuse inflammation of the cellular membrane, that peritonitis may or may not be present, and that when it does ensue it is secondary to the cellular inflammation, and merely subsidiary to it in producing a fatal termination.

Two provincial surgeons, Mr. Fletcher, of Gloucester, and Dr. Macfarlane, of Glasgow, have lately published some cases of lithotomy, and given the results of their experience to the public.*

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* The works of both these Gentlemen have been fully noticed in this Journal.

Mr. Fletcher maintains that peritonitis is frequent, and that much depletion is necessary to extinguish it; Dr. Macfarlane, on the contrary, denies its frequency, but agrees with Mr. Brodie in considering cellular inflammation as a common consequence of the operation, and agrees with him also in thinking depletion rather injurious than beneficial. When discrepancies of this kind occur in statements of facts, the only method of arriving at truth is to observe carefully, and chronicle faithfully, the facts themselves.

When cellular inflammation occurs, is it the result of extravasation of urine, or of the lesions of tissue produced by the operation, independently of any extravasation? When we examine the bodies of those who have died after the operation, it is difficult, in the majority of cases, to determine whether the urine has or has not been effused. The cellular membrane near the wound is more or less sloughy, and beyond the wound is an effusion of pus, or of lymph, or of bloody serum, and it really is far from easy for the inquirer to satisfy himself of the presence or absence of a small quantity of urine. The morbid appearances presented by diffuse cellular inflammation in the pelvis and behind the peritoneum, are precisely similar to those which cellular inflammation offers elsewhere. If a limb in which diffuse cellular inflammation has existed be examined, the following successive stages, or phases, of the inflammatory changes may always be discovered; 1, effusion into the cellular tissue of a bloody serum, more or less abundant, and attended with partial vascularity of the tissue; 2, the cells more or less completely occupied by a gelatinous-looking lymph or thin pus, or a mixture of both, accompanied with some serum, but no vascularity, or very little; 3, the cells completely filled with a deposite intermediate in consistence between pus and lymph, or here with pus and there with lymph, no blood-vessels observable, and the cellular texture more or less dead, apparently from the deposite into its cells having totally destroyed its circulation. There are the appearances presented by a limb in which extensive and severe cellular inflammation has existed, the last-mentioned alterations being present where the inflammation has obtained for the longest period of time, or has been most severe, and the others presenting themselves in an inverted order, as that part is receded from.

Now this is precisely the chain of alterations developed in the cellular membrane of the pelvis and loins after the operation of lithotomy. In the immediate vicinity of the wound, the cellular tissue is actually sloughy; further on it is infiltrated with pus, or merely with lymph, and still more remotely, for instance, in the iliac fossa or the lumbar region, there is merely an effusion of bloody serum.

Thus, there is no appreciable difference between the characters of cellular inflammation in the interior, after lithotomy, and those of cellular inflammation, near the surface of the body, in an extremity. But cellular inflammation may occur, and constantly does so, in a limb, independently of the application of any irritating substance, or diffusion of any deleterious fluid. A compound fracture, a bruise, a wound, any lesion of the tissue, is known to give rise to it in the one instance; and, therefore, we may fairly suppose that the mere injury of the operation may also be sufficient to occasion it in the other. Cellular inflammation does appear to be most frequent after those operations of lithotomy in which the stone is large, and much effect and many trials are necessary to effect its removal, in which, in point of fact, the cellular membrane is much lacerated or much bruised, in which it is most injured, and, therefore, most disposed to inflame.

With these observations, we pass to the narration of some cases which have occurred at this hospital. The two first have been noticed in a former report in this Journal; but we feel disposed to re-introduce a very brief abstract of them, as they bear particularly on the present subject.

CASE 1. *Lithotomy—Death on the fifth Day—Cellular Inflammation, with slight Peritonitis.*

William Cockerell, æt. 4½, admitted, Sept. 26th, 1829, under the care of Mr. Keate, with the usual symptoms of stone in the bladder.

The operation was performed on the 1st October; a double-edged knife was employed. The stone weighed 3ij. gr. x., and the external laminæ consisted of the phosphates.

5, p.m. No pain but in voiding the urine, which passes freely through the wound. Pulse quick—skin rather hot.

10, p.m. Has slept.

Syrupi papav. 3j.

Oct. 2d. Has slept during the greater part of the night—urine retained longer—skin cool—pulse quick—tongue white—bowels not open.

10. p.m. Pulse more accelerated, and skin warmer—there was slight pain in the abdomen at an earlier part of the evening, but it has been quite relieved by the warm bath—no tenderness nor tension on pressure—urine flows freely.

Oct. 3d, 9, a m. Extreme tenderness over the whole abdomen, without tension—pulse 150, hard and sharp—skin hot—tongue white—bowels not open—urine passed through the urethra this morning—no unusual appearance about the external wound.

V.S. ad ℥iv. *Hirud.* viij. *abdomini; postea fotus. Ol. ric. stat. et donec, &c.*

4, p.m. Tenderness slightly relieved, and more limited to the hypogastrium—pulse quick, softer—tongue white—perspires much—bowels have acted freely. Blood is highly buffed and cupped.

Rep. Hirud. x. *abdomini. P, c. fotu.*

9, p.m. Leeches last applied have afforded no relief—pulse weak, compressible—skin clammy—tongue white—urine passes away freely, partly by wound, partly by urethra. The child was now seen by Mr. Brodie, in consequence of Mr. Keate's absence in the country. Mr. Brodie ordered—

Sago, arrow-root, wine.

He introduced his finger into the wound; a slight hæmorrhage followed.

Oct. 4th. Has had some sleep—pulse a little fuller (the effect, probably, of the stimuli)—tongue brown in centre, and dry—countenance placid—abdomen becoming tympanitic, without tension—bowels have acted once—urine passed freely.

Beef-tea, brandy, &c.

Vesp. Has vomited several times—abdomen more distended—pulse weaker—sinking.

He died at 3, p.m. next day.

Sectio Cadaveris. Little or no serous effusion in the peritoneal cavity, but partial injection of the peritoneum, and some slight depositions of lymph. Lymph in the cellular membrane external to the peritoneum, in the loins, &c. Serum in the pelvic cellular membrane, but not actually sloughing. The incision had extended through the prostate and its capsule.

CASE 2. *Lithotomy—Death on the fifth Day after the Operation—some Peritonitis and Cellular Inflammation.*

Richard Gray, æt. 4½, admitted June 16th, 1831, under Mr. Brodie, with stone in the bladder. The child was very healthy.

The bowels were opened with castor oil, and the operation was performed on the 17th. Mr. Brodie first attempted to make the incision in the bladder with a common scalpel, but the urine escaped by the groove in the staff; and, after one or two trials, the scalpel was abandoned, and a beaked knife substituted for it. With this the bladder was readily opened. Two small stones, apparently consisting of lithic acid, were extracted. The operation lasted 10 minutes. The patient was put to bed, with a pillow under his knees, and the wound was left to itself.

19th. The patient has hitherto gone on tolerably well, but the pulse has been very frequent; the urine has escaped freely. He has taken only slops, with strawberries, and things of that description. At present, the skin is rather warm—countenance slightly anxious—pulse very frequent—urine said to pass freely—bowels not opened since the operation.

Haustus sennæ statim, et rep. se re.

5, p.m. Bowels opened—symptoms continue, with more restlessness, some tenderness of belly, and disposition to draw up the knees.

H. salin. ℥ss.—*Vin. ant. tart.* ℥v.—*Liq. op. sed.* ℥ij. *4tis. horis.*

Calomel, gr. ij. *stat.*—*Balneum tepid. Postea fotus.*

10, p.m. *Calomel*, gr. ij. *stat.*—*Hirud.* vj. *abdomini.*—*Cal.* gr. ij. *4tis hor.*

20th, 9, a. m. Slept during the night, quieter this morning—abdomen rather less tender, and knees less drawn up. Pulse continues frequent—lips dry—tongue whitish, with reddened papillæ.

1, p.m. *Rep. H. sal. sine. Liq. op. sed.*—*Omr. Calomel.*

6, p.m. More heat of skin—anxiety—small, frequent pulse—apparently more abdominal tenderness—no rigor, nor sickness—delirious, which, indeed, he was to some degree last evening.

Hirud. viij. *abdomini.*

11, p.m. Little alteration—rather more depression.

H. salin. ℥ss. *c*, *V. ant. t.* ℥iij.—*Liq. op. sed.* gtt. iij. *3tiis vel 4tis horis. c. Cal.* gr. j.—*Emp. canth. abdomini.*

21st, 1, p.m. Passed a drowsy night, and this morning there is some remission of the symptoms. Sometimes the knees are drawn up, sometimes they are not—position ordinarily on the left side—lies with the eyes closed, but frequently turns his head suddenly from side to side, and cries aloud—looks pallid and anxious—complains of pain when the abdomen is pressed—pulse very frequent—tongue loaded with thick crust—lips desquamating—motions frequent and green—urine escapes freely.

Hirud. vj.—*Rep. Haust. sine Liq. op. sed.*—*Rep. Cal. 4tis horis.*

The child now sank rapidly, and died in the night of the 22d.

Sectio Cadaveris, 24th, 1, p. m. Intestines rather distended with air—here and there vascular injection, not considerable, of the intestinal and parietal peritoneum. Some turbid, deep yellow serum in peritoneal cavity.

Some serum in the pelvic cellular membrane, around the wound—no distinct evidence of sloughing or urinous infiltration—wound in bladder not very large—nothing further satisfactorily made out.

In the calyx of one kidney, some calculous matter—kidney itself rather soft, and partially vascular.

CASE 3. *Lithotomy—large Mulberry Calculus—Death in about 43 Hours—Diffuse Inflammation, with commencing Peritonitis.*

George Shorter, æt. 15, a strumous-looking lad, but not otherwise unhealthy in appearance, admitted, Feb. 13th, 1833, under Mr. Hawkins.

He had the usual symptoms of stone in the bladder; the urine was acid. On the 16th, he was sounded by Mr. Hawkins, and a stone was felt. Mr. Hawkins supposed it to be large, but it was placed so far back, that, even with the assistance of a finger in the rectum, he could not satisfy himself on this head.

He was said to have suffered from symptoms of stone since the age of two or three years. He was then sounded by Sir Astley Cooper: but no stone could be felt. He was usually under the necessity of taking much exercise, which occasioned a good deal of suffering. He walked from Brentford to the hospital on the day of his admission.

He was ordered some doses of castor oil, and on the 21st, at 1, p.m. the operation was performed, the bowels having been emptied by an enema early in the morning.

Mr. Hawkins employed a beaked knife, the blade of which was not broad, and the beak was set off at an angle from the flat surface. There was some little difficulty in lodging the beak in the groove of the staff. On the withdrawal of the knife, which was followed by the flow of some, but not much urine, the blunt gorget was introduced, and the staff withdrawn. A more copious flow of urine succeeded the introduction of the gorget. The forceps were introduced upon the gorget, the stone seized, and brought into the wound. Here, however, it slipped from out the forceps, and this happened several times before it could be extracted. The stone was round, about the size of a walnut, of the mulberry species, with many asperities.

9, p.m. Looks pale—pulse rather frequent—skin not hot—has retched and felt sick once, but has not vomited. Not much pain in wound now. About 7, p.m., the urine escaped freely from the wound, but

it had not previously been voided; it is dark, bloody, about eight or ten ounces in quantity.

22d. 10, a.m. Passed the night with little sleep. Was sick an hour ago, and vomited mucus tinged green with bile. Pulse 100, not presenting any peculiar character—face pale, and aspect rather anxious—skin little augmented in temperature—tongue whitish. The abdomen is increased in size and rather tympanitic—pain on pressure in the iliac, inguinal, and pubic regions. Passed about half a pint of bloody urine at 7, a. m.

12, *Merid.* The sides of the wound have been separated by the introduction of the finger—no urine was collected in the bladder.

Hirudines xx. *hypogastrio.*

At 1, p.m. he was ordered saline effervescing draughts with spirits of nitrous ether and wine of antimony every four hours, and small doses of calomel and Dover's powder every three hours. The abdomen was fomented.

Vesp. 8, p. m. Aspect pale, anxious—not the slightest delirium or even hurriedness of manner—respirations rather increased in frequency—pulse rapid, irregular, so weak that it can scarcely be distinguished at the wrist—skin hardly warmer than natural—tongue moist, not coated. He is rather thirsty, and has vomited many times during the day, the matter ejected retaining the same character as before. Abdomen more distended, tympanitic—he dreads pressure on any part of it, especially on the regions formerly mentioned; the pain is increased by deep inspiration.

He was ordered arrow-root, and was placed in the warm-bath, on his removal from which he felt relieved. The pulse, however, became quite imperceptible at the wrist, and the collapse grew more decided. Between 4 and 5, a.m. of the 23d, he died.

Sectio Cadaveris, 24th, 2, p. m. Abdomen still distended. On opening the abdominal cavity partial vascularities were observed on the parietal peritoneum, especially towards the pelvis, and on the peritoneum immediately investing the viscera. There was a small quantity, say an ounce, of bloody serum in the peritoneal cavity. The chief inflammatory injection was seen in the pelvic peritoneum, and in that of the loins.

Wound and Cellular Tissue. The wound had a dark and sloughy appearance, particularly in the vicinity of the opening into the bladder. Here there was some infiltration of dirty-looking pus and lymph, which was limited, however, to the pelvic cellular membrane. There was infiltration of dirty, bloody serum in the cellular tissue of the right iliac fossa, and in that extending behind the peritoneum as high as the meso-colon. The peritoneum was actually raised from the right iliac fossa by the effusion. It was found impossible to determine whether there was any effusion of urine. The left half of the prostate and its capsule were completely divided, and the vesical wound extended for a quarter of an inch beyond the prostate. This gland was so small that it was utterly impossible for the calculus inclosed in the blades of the forceps to have been withdrawn from the bladder, unless the prostate and its capsule were either cut or torn. The coats of the bladder were rather thickened.

There was nothing deserving particular attention in the state of the kidneys. The thoracic viscera were sound. The head was not examined.

Mr. Brodie observed in the dead-house that a stone of the form and dimensions of that extracted from the present patient, could hardly be removed from the bladder of a young subject, without a serious risk of a fatal termination. Mr. Brodie has observed that when the capsule of the prostate is cut or torn, and the wound extends to the parietes of the bladder, the chance of cellular inflammation is materially increased. In this instance the vesical wound was necessarily of great dimensions. Mr. Brodie made one or two other remarks deserving of attention. Want of sleep on the night succeeding the operation was, he said, a bad symptom. Pain in the back was another unpleasant symptom, and indicative of cellular inflammation. This patient was reported by the house-surgeon to have laboured under pain in the back. Mr. Brodie

remarked that he never knew such cases otherwise than injured by depletion. He said that when these symptoms appear in adults, they are almost always fatal, but that he had seen children recover from them.

Our readers will observe from the foregoing cases that the symptoms may be described to be—pyrexia, characterized by a frequent pulse, a skin not very warm nor flushed, ushered in and accompanied rather by irritability of stomach and vomiting than by rigor—appearing from the first to the third or fourth day after the operation—some tenderness of the abdomen, chiefly observed in the iliac, inguinal, and pubic regions—after a time, some tumefaction of the abdomen and tympanitis, depression of the vital powers, and death within the first seven or eight days after the operation.

On the examination of such cases there is found cellular inflammation more or less extensive, usually accompanied with some peritonitis, but the latter not sufficient to account for the symptoms, nor the fatal termination. It is quite fair to conclude that the peritoneum is affected subsequently to the cellular membrane, and that the inflammation extends to it in consequence of its contiguity only.

CASE 4. *Lithotomy—Hæmorrhage after the Operation—Death from Pericardial Inflammation.*

George Brooks, æt. 15, admitted August, 1832, under the care of Mr. Babington, with symptoms of stone in the bladder. He was an errand-boy, and consequently obliged to use much exercise. He was tolerably healthy, but looked pale, and was thin. The pulse was generally frequent, the tongue whitish, with red papillæ.

He had laboured under the symptoms of stone since the age of two years, and had been sounded by many eminent surgeons, but no stone had been discovered. For four years previous to June, 1832, he had experienced a respite from his sufferings, but the symptoms became so severe in that month that he was obliged to relinquish his occupation altogether. When admitted into the hospital, much difficulty was experienced on attempting to introduce instruments into the bladder. An instrument was passed every day for a week, before that difficulty was removed, and then a calculus was felt. It is right to mention that the lad had been subject to epileptic fits.

The treatment after his admission, consisted in the exhibition of opiate injections, and saline medicines, to relieve the urgent and prominent symptoms. After this he was allowed the ordinary diet of the hospital, and medicines were discontinued.

On the 13th Sept. the operation was performed by Mr. Babington. There was some little difficulty experienced in introducing the staff. During the operation the rectum, as not unfrequently happens, was wounded. The incision of the bladder was made with a beaked knife, the forceps introduced on a blunt gorget, and the stone extracted with facility. The stone was nearly two inches in length, and almost an inch in its transverse diameter. After the operation it was thought advisable to lay open the wound of the rectum into the perineal wound. A blunt-pointed bistoury was therefore passed from the perineal wound, through the wound in the rectum into the gut, and, the fore-finger of the other hand being introduced into the gut through the anus, the sphincter was divided from within outwards, as in the operation for fistula ani.

Soon after the operation the bladder was injected with tepid water, and a dose of Battley's sedative laudanum exhibited.

Vespere. Pulse now frequent, full, jerky—skin warmish—tongue white on the dorsum, red at the sides and tip. In the afternoon, no urine having flowed since the operation, Mr. Pollard, the house-surgeon, introduced his finger into the wound, and broke up some coagulum which plugged it. The urine flowed freely soon afterwards. There is still, 10 p. m., some coagulum in the wound. He was ordered an opiate if he should not be able to procure sleep.

14th, 2 p. m. He slept during the night,

and is disposed to be drowsy at present; he had the opiate. At 9 a. m. this morning Mr. Babington examined the wound with his finger. Bleeding to the amount of six or eight ounces immediately occurred, and Mr. Babington plugged the wound with common and blue lint, first washing out the bladder. At 1 p. m. he removed the common, and left the blue lint.

There is now a good deal of coagulum in the wound. Skin warm—pulse 120, not powerful, but jerky. *Catheter introduced.*

10 p. m. Countenance more anxious. Slight tenderness on pressure in the pubic and left inguinal regions. Has voided about six ounces of bloody urine with coagula; it came in gushes, on two occasions, and on the last the catheter slipped out.

Some blue lint and coagulum removed—catheter re-introduced—warm water injected. Ice has been applied.

15th, *Mane.* Slept last night—less pyrexia.

Vesp. Pulse again 130 to 140—symptoms resembling those of yester-evening. No more hæmorrhage from the wound.

Bladder again washed out—fæces return with urine by the catheter, and urine is voided by the rectum.

16th. Pulse very frequent, and weak—urine mixed with fæces, and the fæces with grumous blood.

Beef-tea—an opiate at night.

17th. *Vesp.* Aspect anxious,—pale—respiration hurried—inspiration imperfect, and attended with pain in both clavicles—slight cough occasionally on full inspiration. He says he has been subject to such symptoms previously to an epileptic attack. Pulse galloping—tongue moist—skin warm.—Slight pain on pressure above pubes, and in iliac regions.

On the following morning, 18th, he was no better. The pulse was 130 to 140—there was a pain on pressure of the sides of the chest. He was said to have slept well in the night. He had passed some clear urine.

Hirud. xviij. *abdomini.*

Merid. Emp. canth. abdomini. Mist. camph. c. Liq. op. sed. ℥viij. *6tis horis.*

Vesp. Less pain—no material alteration.

19th. *Mane.* Had a profuse perspiration last night. Slept well, and now dozes much, apparently in consequence of the opium. Respiration still imperfect and hurried—pain complained of under the lower part of the sternum—pain also in the sides of the neck. Pulse very rapid, tumultuous—pulsation of the vessels at the root of the neck very perceptible.

Merid. Hirud. viij. *pectori. Rep. Haust. 4tis. horis.*

Vesp. Quieter—has had again profuse perspiration to-day—tongue white, patchy.

Emp. canth. dorso—adde H. tinct. digitalis, ℥viij.

20th. 4, p. m. Passed a very bad night, probably from the irritation occasioned by the blister—had a profuse perspiration during the night, and again this day. Symptoms much the same—the tongue has a peculiar appearance, there are patches of white upon the dorsum, and a macerated appearance of the remainder; an appearance very similar to that frequently observed in cases of the purulent deposites. The aspect of the patient is also very similar to that of patients labouring under that affection.

On the following day he had again perspiration. On the 22d, he was ordered—

Pulv. digitalis, gr. j. *Ext. conii,* grs. viij. *8vis. horis.*

The symptoms were somewhat relieved until the afternoon of the 24th, when they again became aggravated. The action of the heart was most tumultuous; he seemed to prefer lying on the left side; he had emaciated greatly. Since the 21st he had had no sweating. We should state that for many days there had been nothing about the wound or the urinary organs to deserve particular mention.

On the morning of the 25th the symptoms were again slightly agitated. We examined the anterior part of the chest, for we did not wish to disturb the lad by moving him so as to apply the stethoscope posteriorly. The respiration was

puerile anteriorly on both sides; stethoscopists know that this may exist, with fluid in the dependent parts of the pleural cavity, or even alterations of the posterior part of the lungs; consequently, by itself it proves little or nothing. The impulse of the heart was confused; no distinct bruit-de-soufflet —some apparent retraction of the cardiac intercostal spaces.

Unfortunately we possess no further notes of the case and must therefore write from recollection. We will merely add, that the symptoms were not materially relieved by any means employed, and the patient died in some days after the last report.

On dissection the heart was found pretty generally adherent to the free pericardium, partly by old adhesions, partly by recent lymph. There was active hypertrophy of the left chambers, dilatation of the right. The lungs were generally adherent, by old attachments, to the costal pleuræ, their further condition we do not exactly recollect.

There was no collection of matter, nor was there any affection of the veins discovered about the pelvis.

It is right to mention that this boy had formerly been subject to acute rheumatism, a disease well known to produce or entail very frequently pericarditis and subsequent enlargement of the heart. The enlargement in the present instance, and the old adhesions of the pericardium as well as of the pleuræ may therefore be fairly referred to this source. Probably, too, the existing alterations of the heart, and the former occurrence of pericarditis predisposed the patient to the fatal attack after the operation. It is well known that operations and injuries, or even febrile states of system, however induced, are very apt to give rise to fatal inflammation of the pleura or the pericardium, and the present patient would probably be more liable, from previous attacks, to such complications. However this may be we have stated the fact as accurately as possible.

The subject of the present report being that of death from lithotomy, we have of course selected only unsuccessful cases. It cannot, therefore, be imagined that the present is a sample of the success of the surgeons; we are narrating only the failures, in order to point out, as clearly as a few facts can do so, the real causes of death after the operation.

ABSCESS OF THE PELVIS.

IT would seem that abscess, that is, a circumscribed collection of matter, in the cellular membrane of the pelvis, is not an unfrequent cause of death after lithotomy. In some instances this would appear to be preceded by the symptoms of general diffuse inflammation of the tissue, which, being checked in some degree, subside into those of limited collection of matter; in other cases, it would seem that there is not extensive inflammation in the first instance, but the symptoms of abscess gradually steal on. There was one feature common to all the cases we have witnessed, a frequent pulse, commencing after the operation and kept up throughout the subsequent stages of the case. This is usually a bad symptom after any operation or accident. The purulent deposites occur for the most part in those in whom it has been present.

It is not at all surprising that abscess of the pelvis should occasionally follow the operation of lithotomy. If diffuse cellular inflammation be a common consequence, the wonder is, not that a collection of matter occurs sometimes, but that it occurs so rarely. How seldom does such inflammation take place in other parts of the body without giving rise to collections of matter. The truth is that abscess does not often follow diffuse cellular inflammation of the pelvis, because the patient commonly dies before the period for its formation has arrived.

Again, if acute cellular inflammation be frequent, it is à priori, probable that chronic, or less severe cellular inflammation will occur occasionally, and abscess is the result of such inflammation. The unavoidable violence of the operation, and the circumstance of urine being necessitated to pass through cellular membrane recently divided, is likely to give rise to both forms of inflam-

mation of that tissue. It seems to us surprising that so little should have hitherto been said about abscess of the pelvis, for really, from the cases which have occurred at the hospital, it would seem to be sufficiently frequent to attract attention.

CASE 5. *Recto-vesical Lithotomy—Death three Weeks after the Operation—Abscess of the Pelvis.*

Thomas Bickerton, æt. 25, admitted, Oct. 4th, 1830, under the care of Mr. Brodie, with the symptoms of stone in a severe degree. His health was tolerably good, but he was irritable, and rather anxious.

The symptoms had been coming on for about 20 years, and 12 or 14 years before his admission, a calculus had been discovered by sounding. Then his father, hearing of a *solvent*, employed it, and for six years he suffered little. At a subsequent period he again took the solvent, and again felt relief, but it was not permanent. The solvent was bi-carbonate of potass. Many surgeons had examined him, and all, we believe, except one, had refused to perform the latter operation, on account of the size of the stone. That one gentleman had *not* examined the patient by the rectum. Baron Heurteloup would not drill the stone; he thought it was too large. The calculus, when felt from the rectum, appeared to be of extreme size, and its anterior extremity was partially impacted in the prostatic part of the urethra. The high operation had been proposed, but this was considered unadvisable, for if the stone was of the magnitude imagined, the sonde-à-dard could not have been employed with facility. On mature consideration Mr. Brodie adopted a modification of the lateral and rectal operations, which may prove of great service on future occasions.

Mr. Brodie performed the operation on the 20th of October; an injection of one quart of warm water was thrown up on that morning, in order to empty the bowels.

Having introduced the staff he cut upon it with the knife in the perineum in the usual way, and passing the knife along the groove of the staff into the bladder he divided part of the prostrate. He then took Blizard's knife, passed it along the staff into the bladder, completed the section of the prostate and part of the neck of the bladder, and turning the edge of the knife towards the right, nicked the wound in the prostrate on that side, by which means he acquired additional room at a small expense of division of parts. The staff had lain on the right side of the stone; it was now withdrawn. Mr. Brodie took a curved probe-pointed bistoury, with a sharp-pointed bistoury blade concealed in it, and capable of being pushed forward and retracted at pleasure. He passed this to the bottom of the wound, and introduced the fore-finger of the right hand into the rectum. Having felt with this finger the button-end of the bistoury, the sharp-pointed blade was pushed forwards, and the wall of the gut penetrated on the finger. This blade was then withdrawn—the probe-pointed bistoury had entered the rectum—and its division was completed from within outwards, by drawing out the bistoury with the probe-end resting on the fore-finger, as is done in the operation for fistula ani. The opening in the rectum at the bottom of the wound was not exactly opposite to the wound in the bladder, in order that a kind of valve might be formed, to prevent the ready transit of the contents of the bowel into the bladder. The remainder of the rectum was divided on its anterior and left lateral aspect. The forceps were introduced and the stone was readily extracted. It did not prove so large as had been anticipated by all who had, on different occasions, examined the patient. It was long, its anterior end was impacted in the prostatic part of the urethra, and from being always held in this situation, it had appeared to be fixed by its magnitude, and the finger in the rectum could never reach its posterior boundary.

The wound obtained by the operation was capable of admitting the egress of a calculus of very large size. The operation itself was simple, scientific, performed without difficulty.

Immediately after the operation he was ordered an anodyne. In the course of two or three hours, hæmorrhage took place, and half a pint of blood was lost. The bleeding appeared to issue from the right side of the wound, and from the depth of about an inch; it was arrested by compressing for half an hour, with the finger, the pudic artery against the ascending ramus of the ischium. He was blanched by the bleeding, and required wine afterwards.

Nothing further of consequence occurred on that or the following day; the pulse, however, was frequent. On the 22d, Mr. Brodie introduced his finger into the wound, and a catheter into the bladder. In the afternoon, the patient said he could only make water by straining much, and he was rather feverish. He had, and for some days afterwards continued to have, some soreness on pressure of the hypogastrium. On the 24th, he was allowed meat. On the 27th, we find it reported that he had less heat of skin, implying, what was indeed the fact, that the skin was generally warmer than natural, as the pulse was more frequent; there was always, in short, pyrexia. The tongue was moist, clean, and chapped. Fæces and urine were passed by the wound. A flexible metallic catheter was passed into the bladder, and retained in it, in order that the urine might drain into an urinal.

Ordered, Quinæ and acid.

In the evening he had partially withdrawn the catheter, which was bent; it was re-introduced by the house-surgeon. The patient was irritable and fidgetty. On the following day Mr. Brodie re-adjusted the instrument, with the assistance of the finger in recto; the urine escaped freely. The bowels were rather loose, the tongue inclined to be dry and fissured. In the night the patient again pulled out the instrument. On the next day it was retained in the bladder by means of tapes, &c. The pulse continued frequent, and was rather jerky—the skin hot at nights—the tongue chapped, reddish, rather dry, the bowels rather loose. The urine, which was fæcal, only came through the catheter on pressure of the abdomen.

On Nov. 1, he was ordered salines with barks and hydrargyrus cum cretâ with Dover's powder. On the 2d, a small abscess was discovered at the root of the scrotum anteriorly; it was opened and stinking urinous pus discharged.

On the 3d, the pyrexia continued with a disposition to perspiration, and to relaxation of the bowels. On the 5th, the mouth was slightly aphthous; the urine was alkaline.

Ordered, chalk mixture, with aromatic confection and laudanum. Port wine.

6th. Sweated much last night, and had a slight chill. Now very irritable, yet says he is better. Elastic gum catheter passed into the bladder and finger into the wound. The catheter was retained in the bladder for a short time, when he had a rigor, and it was withdrawn.

8, *Vesp.* Patient much worse—very restless—complains much of pain in the wound—slight tenderness in right hypochondrium, and obscure pain in the chest.

Haustus anodynus.

He slept during the night, and the nurse reported him better on the following morning. At the house-surgeon's visit, 10, a. m., he found him insensible, in the state of sinking, with subsultus tendinum, small pulse, &c. Brandy was given, and he lingered till 8, a. m. of the 10th, when he died.

Sectio Cadaveris, 2, p. m. 11th. The body was considerably emaciated, the loss of flesh having occurred subsequently to the operation.

Thorax. Some old adhesions of right lung. At lower margin of left lung a portion attached to the pericardium by recent lymph. The substance of the lung here contained a circumscribed purulent deposite. There were one or two other deposites of lymph, with a sloughy state of the lung, bounded by a distinct false membrane or cyst.

Abdomen and Pelvis. Kidneys small, puckered, flabby; their interior dark-coloured, containing some encysted abscesses of dark matter apparently mixed with blood. In some part calculous matter deposited in portions of the kidney. Ureters large, dark-coloured, rathered injected.

Bladder rather contracted—its parietes thickened—its mucous membrane dark-coloured, injected. On its right side a small aperture leading into a kind of cyst in the substance of the bladder, and containing yellow pus. Prostate nicked on both sides—wound not extending beyond the prostate, its margins encrusted with calculous matter.

Rectum generally dark-coloured in its interior—wound not extending very high up, partly united below by lymph, organized and assimilated to the structure of the part. Communication of rectum with prostatic part of bladder, not beyond it.

External to the urethra, rather anterior to the bulb, a sloughy small abscess not opening into the urethra, but apparently communicating round it with the wound. The abscess descended into the scrotum, on the outside of the tunica vaginalis. The testis was enlarged and hard. There was loose fæcal matter in the prostatic part of the bladder and urethra, but not beyond that.

On the left side of the pelvis, in the cellular membrane external to the peritoneum, an abscess the size of a large egg, with sloughy-looking parietes, and bridles of sloughy cellular membrane running across it. It had no obvious communication with the bladder, wound, nor rectum.

Cranium. Not examined.

We have given the preceding case in detail because it is interesting on many accounts. If the symptoms are carefully noted, they will prove to be those which form the leading features of cases of this description. In our note-book we find the following reference to some cases of abscess of the pelvis alluded to by Mr. Brodie on the occasion of the examination of this patient.

Case A. Sir Everard Home operated in an old case of stone, in which there was alkaline urine, with ropy mucus. The only reason which induced him to operate was the excessive suffering of the patient. The patient died soon after the operation, and such an abscess was found.

Case B. Mr. Brodie operated on a lieutenant in the Navy, who, he believes, was in a pretty good state of health previously to the operation. He died, and such an abscess was found.

Case C. M. Brodie operated on a clergyman, who was a stout man, and able to preach up to the time of the operation. He died, and such an abscess was discovered.

Mr. Brodie was inclined to believe, when he made these remarks, that the abscess existed previous to the operation. Whether he continues to hold that opinion we cannot say.

CASE 6. *Lithotomy—Death on the tenth day—Abscess of the Pelvis.*

John Barnett, æt. 63, agricultural labourer, admitted Feb. 1st, 1832, under the care of Mr. Keate, with symptoms of stone in the bladder. His health was pretty good. The urine was acid, and not albuminous. On sounding him, Mr. Keate felt a stone, apparently about the size of a walnut, and smooth. The stone could be felt from the rectum. The prostate seemed enlarged.

The symptoms had commenced twelve months previously. Three months before his admission he had been sounded, but no calculus could be discovered.

After his admission he was feverish, and there was some pain in the perinæum and in the hypogastrium, on firm pressure. These symptoms were quite removed by some saline medicines, demulcents, and leeches applied to the perinæum.

On the 16th the operation was performed. After the incision into the urethra, some arterial hæmorrhage took place. A beaked knife was used for the incision of the bladder; a small quantity of urine followed its withdrawal, but a larger gush ensued on the introduction of the forceps. The stone was readily felt at the *bas-fond* of the bladder, and seized, but in its long axis. Some difficulty was experienced in consequence, the forceps slipped, the stone was seized a second time and in its short axis, and then it was withdrawn with little force. It was about an inch and a half in length, by an inch in its short diameter, but flattened

from side to side. Another stone was felt and extracted with facility; it was of a similar shape, but smaller. Some hæmorrhage continuing, apparently from the bulb, the patient was removed to bed, and then a gum-catheter, with blue lint wrapped round the part of it opposed to the bulb, was introduced into the wound and bladder and retained there. The wound was also stuffed with common lint, and an assistant was ready to make pressure if necessary.

The calculi appeared to consist of the triple phosphate externally, with a lithic acid nucleus. The operation was completed in a short time, four minutes and a half, and to say that it was performed with Mr. Keate's accustomed dexterity is to say much. The patient bore it well.

In an hour after the operation the patient was still bleeding, and had lost in all two or three pints of blood. The lint was now removed and pressure maintained on the bulb by the finger of an assistant for three quarters of an hour. The bleeding was thus arrested. The bladder was washed out several times with warm water, and an opiate was given.

9, p.m. Tolerably easy—pulse 80—constant dripping of bloody fluid through the catheter—bladder again syringed out. This was repeated at midnight, and an opiate again administered.

17th, 9, a. m. Has passed a quiet night, but had little sleep—complains of slight pain in the pubic region, somewhat relieved by fomentations—pulse 96, soft—skin warm—tongue moist—fluid not so discoloured.

10, p. m. Worse. Some heat of skin—pulse 120, irregularly intermitting, which it began to be this afternoon—tongue rather dry in centre—bowels not open. Urine flows pretty freely through the wound; has taken a little beef-tea.

An anodyne.

On the next morning he was ordered castor-oil, of which he took three doses; they did not act till towards the evening. On the 18th, there was little alteration, save that he complained of cough, and of stiffness in the arms.

An anodyne.

There was little worthy of notice on the 19th. The symptoms were perhaps a shade better, but he was annoyed by purging; the pulse continued frequent and irregularly intermitting. He was ordered an opiate and aromatic draught, and directed to have fish on the following day.

20th, 2, p. m. Passed a tolerably good night. Pulse more frequent, not intermitting—skin warm—tongue rather more dry—aspect slightly sallow—more cough with mucous râle. Urine is retained for a quarter of an hour at a time, and then comes freely.

Emp. canth. sterno. Linctus in tussim.

21st, 11, a.m. Countenance not improved—tongue rather more dry—pulse irregularly intermitting. Urine passed with some little difficulty and pain. A catheter was with some trouble introduced into the bladder per urethram. In the evening the pyrexia was rather increased, and there was some tenderness on pressure in the region of the bladder. We need scarcely mention the particular prescriptions; they consisted of salines, with diaphoretics and expectorants, and occasionally narcotics.

In the evening of the 22d, erysipelatous inflammation appeared around the perinæum, and over the nates, and lower part of the back. The general symptoms were little altered.

On the following morning he was ordered *port wine, beef tea, and quina.* On that evening the erysipelas had spread up the back and down the thighs. The pulse was weaker.

On the 25th the erysipelas had spread over the abdomen—the scrotum was of dull red colour, and its cellular texture loaded with solid lymph. The symptoms were those of typhus. He was ordered *a mutton chop and porter.*

On the 26th, he was in a state of complete prostration—the cellular membrane of the scrotum was evidently sloughing, and the skin beginning to slough also. A catheter was passed into the bladder, but no urine was drawn off. Incisions were made in the scrotum. After this the patient sank rapidly, and died at midnight.

Sectio Cadaveris. Body rather emaciated.

Cranium. Not examined.

Thorax. Lungs rather emphysematous—old adhesions of pleuræ on right side. Mucous membrane of bronchi dark, inflamed.

Heart large with simple hypertrophy of its left ventricle. Aorta dilated, with varicose vasa vasorum. Arterial system generally deficient in elasticity of tissue.

Abdomen. Left kidney pale—no other alteration.

Pelvis and Perinæum. Bladder rather contracted, thickened—its mucous membrane corrugated, dark, in a state of chronic inflammation. A curious appearance observable about its neck. At the *trigone*, a projection, of the size of a small nut, in the site of the third lobe of the prostate. The incision had completely divided the left lateral lobe, but we cannot exactly say whether the bladder was cut or torn in any way, beyond it. On the opposite side a projection larger than that first described. Whether this arose from the right lateral lobe of the prostate, or was a sort of fungous growth, we cannot exactly say; its structure, when cut, was rather softer than that of the prostate, but of similar colour.

The bulb of the urethra appeared divided. The sides of the whole wound were rather sloughy.

From the wound in the prostate there commenced an abscess, with sloughy parietes, which passed backwards to the left side of the fundus of the bladder, then behind the rectum, occupied a large share of the cellular membrane between the latter and the sacrum, and reached the right side of the intestine, but did not actually touch the right side of the bladder. The contents appeared to be a mixture of pus and urine, or, at all events, of pus and a thinner fluid.

In the wound near its external opening, was found a body, somewhat like an almond in shape and size, attached by a sort of stalk to the right side of the neck of the bladder, within the wound in it. Was this coagulum partially organized?

CASE 8. *Lithotomy — two Calculi — Symptoms of Diffuse Cellular Inflammation after the Operation — subsequent formation of Abscess. Event yet undetermined.*

Edwin Winter, ætatis 8, admitted Jan. 30th, 1833, under the care of Mr. Keate. The child had the usual symptoms of calculus in the bladder. Mr. Keate introduced a moderate-sized instrument, and was of opinion that the stone was compacted in the neck of the bladder. On examination by the rectum the stone seemed immoveable. The child was delicate, of irritable temperament, remarkably precocious in intellect, though totally uneducated. He almost appeared to illustrate the sarcastic remark of Voltaire in his tale of the *Ingénu*, that education in his day was like a pair of stays, crippling the mind into a modish configuration, and destroying its simple and symmetrical *tournure*. But to the point.

The operation was preceded by the warm-bath and opiates. In the morning of Feb. 7th, on which it was performed, an injection was thrown up. There was slight difficulty in finding the groove of the staff. A bistoury-knife, cutting for a short distance on the concave was tried and abandoned. The bistoire-cachée was then used. The stone extracted was longer than a Barcelona nut, with a projecting nipple; it was extracted readily. Another stone was felt. The bladder was now contracted, and it was necessary on introducing the forceps, to dilate the bladder, by opening the blades before the stone could be extracted. It nearly corresponded to the former in size and shape. The child was much excited during the operation, and correspondingly depressed afterwards.

Very soon he complained of pain in the belly, and in the evening there was some tenderness.

Hirud. viij

8th, 11, a. m. Was very sick during the night—this morning is restless—pulse frequent—tongue moist, furred—bowels not open—skin warm—some thirst—still tenderness of the abdomen.

Rep. hirud. viij. *H. Sal. efferv. c. Mag. sulph.* 3ss. *4tis. horis.*

9, p.m. The preceding reports are copied from the note-book of a friend. On this

evening we saw the patient for the first time after the operation. Face pale, somewhat anxious—skin warm—pulse frequent—tongue rather dry—sickness continues. Respiration slightly hurried—cerebral functions undisturbed. Belly rather swollen, tympanitic—still some tenderness on pressure, chiefly about hypogastric, inguinal, and iliac regions—urine said to issue freely from the wound.

9, *Mane.* Passed a better night—rejects by sickness his medicine, but retains tea, &c.—rather less abdominal tenderness—bowels have acted once or twice—countenance improved.

Pulv. ipec. c. Hyd. sub. āā. grs. ij. *4tis. horis.*

Vesp. Continues to be sick on taking medicine or even food.

10th, *Mane.* Has taken five powders. Bowels have been freely opened, and the last stools were of a green colour. Pulse frequent—tongue covered with a brownish fur, and rather dry. No pain now, save on firm pressure.

Omr. pulv. H. Salin. efferv. c. Conf. ra. grs. viij. *4tis. horis.*

Vesp. Belly no longer swollen—vomits only his medicine.

11th. Passed a good night—no sickness since 1, a. m. Pulse 120—tongue still dry—still tenderness in right iliac, inguinal, and pubic regions on firm pressure.

Beef-tea, ℔j. *Hirud.* vj.

12th. Looks better—pulse still 120—and still tenderness in regions mentioned.

Acidi nit. dil., ℥v. *Syrupi,* ℥ij. *Aq.* Oss. *quotid. bibend.*

13th. *Hirud.* vj.

14th. Since last application of leeches tenderness is quite gone, and abdomen has regained its natural flaccidity.

15th. Again slight tenderness in right inguinal region. The sides of the wound are coated with the phosphates.

Hirud. iv.

After this he had no return of pain, and on the 24th he was allowed beef-tea and meat. On the night of the 25th the urine passed through the urethra for the first time; it issued again by this passage on the following morning. There was still pain in the inguinal region, and some induration was felt there.

On the morning of the 27th he had a severe rigor, which occurred about half an hour after the passage of urine through the wound and was attributed to that circumstance. Nothing further occurred till March 6th, when he had evidently pyrexia, and complained of pain in the right groin where there was tenderness, with much thickening and induration. The pulse was 140.

Hirud. iv. *Rhubard and magnesia.*

Vesp. Is and has been very sick—aspect pale, anxious, having all the appearance of persons labouring under the collections of matter—tongue dryish, colourless. On making firm pressure in the groin and separating the edges of the wound in the perinæum, much thin flocculent matter issued from the latter with a spurt. On diminishing the pressure in the groin the matter ceased to flow from the perinæum; on repeating the pressure, the matter again issued, shewing most distinctly a connexion between the abscess in the inguinal region and the wound. After a short time the fulness in the groin was sensibly lessened. The child was put in a warm-bath, and an injection was administered.

Since that period there has been no return of rigor, nor of sickness. Matter has continued to flow from the wound, and it has been mixed with urine. There is still, however, induration and tumefaction in the groin—the boy's aspect is pale, though not anxious—he has sensibly emaciated—and the pulse, whenever we have seen him, has been 120 or upwards. These cannot but be looked on as serious symptoms. There must be a considerable abscess extending from the cellular membrane at the neck of the bladder, along the cellular membrane behind the os pubis, to that in the iliac fossa. Under such circumstances any slight increase of inflammatory action, any accidental retention of the matter, might speedily give rise to that formidable train of symptoms too frequently observed, and characterizing purulent collections or depositeS. We shall state hereafter the result of this interesting case.

LXXXVIII.

SURGICAL ACCOUNT OF THE SIEGE OF ANTWERP.

DR. PAILLARD, actuated by a most laudable zeal for the acquisition of surgical knowledge, repaired to Antwerp two days before the close of the siege. "I had then (says he), on the one hand, the magnificent spectacle of an army attacking, with all the resources of the most perfect science, and with a courage truly superhuman (!), a formidable citadel, defended with the most gallant obstinacy; and, on the other, an ample field for observing almost all the accidents of military surgery." The French army crossed the Belgian frontier on the 15th Nov. in their progress to Antwerp. To each division of the army was attached an "ambulance," consisting of a "chirurgien-major," an "aide-major," four "sous-aides," and two dispensers.

M. Zinck, principal surgeon, directed the medical establishment. His ambulance, called the ambulance of reserve, was at head-quarters, and there almost all the wounded were received, and the different operations performed. It was situated at Berchem, a village near to Antwerp: and in order that relief might be instantly given to the soldiers under urgent circumstances, a smaller ambulance was detached from the main one, and posted immediately behind the trenches. This ambulance in siege warfare, may, therefore, be said to correspond to the "ambulance volante" in an open engagement. Our readers are probably aware, that Barron Larrey has the high merit of having introduced this admirable improvement into the medical service of the army, in the year 1792, during the campaign on the Rhine.

A surgeon and two assistants were constantly attached to the "ambulance de tranchée;" but relieved frequently from Berchem. Their duties exposed them to very considerable danger, as the balls and bombs of the enemy repeatedly passed through the walls of the church and house in which the ambulance was established. When the wounded were brought to the chief ambulance, they were immediately dressed or operated upon, and, after a few hours' rest, sent forward either to Antwerp or Malines. This was done twice a-day—in the morning, and again in the afternoon.

In addition to the wounded French, upwards of 70 of the Dutch garrison were discharged, after the 24th of Dec., from the citadel upon the military hospital of Antwerp; these poor fellows were in a deplorable state; not that we attach any blame to the Dutch surgeons (as has been most unjustly done in some French and Belgian journals), for, considering the difficulties which surrounded them, and the terrors of the sufferers themselves, we are ready to exculpate them from all such charges. We have only to remember that 350 wounded were crowded into a narrow place, lying on straw, and so near to each other that they literally were in contact, and that the surgeons were obliged to stoop down almost on their hands, and to sit astride their patients (so low was the room of the casemates) while dressing their wounds or performing the necessary operations. So offensive was the air in this hospital, that they could not breathe with ease. One requires to have seen the citadel, after its surrender, to form any adequate idea of the wreck and chaos which had been made. From the 10th of December to the 23d, the day on which it capitulated, almost all the buildings had been shivered or burned; and that part of the garrison which was off duty, had no where to shelter themselves but in the galleries, and these were so crowded, that one-half of the soldiers had to stand, while the other half lay down to take a few hours' rest. In the few last days of the siege, part even of these shelters had been demolished, and there was scarcely a place of safety left. So incessant was the fire of our artillery, that, according to calculations, a ball or bomb fell on the citadel every minute. Even the casemated hospital was pierced in several places by the shells, which exploded either in the midst of, or close to, the wounded men; and you might

have seen the poor fellows trying to crawl away from the reach of the shivers. How, then, can we be surprized that many of the wounds and other injuries exhibited such a lamentable condition. By virtue of an article of the capitulation, the wounded Dutch, amounting to about 300, were conveyed from the citadel on board vessels to Bergen-op-Zoom. There had been upwards of 200 of the garrison killed, and these had been hurriedly buried immediately under the soil, so that when this was kicked away, the half-putrid corpses were exposed. The French army had rather more than 100 killed, and nearly 700 wounded. An ample field was thus most unfortunately presented for observing all sorts of gun-shot injuries.

Among the medical men attracted by a zeal for their profession, were several young English surgeons. We shall select a few of the most interesting observations, with a preliminary remark or two.

Contusions.

Dupuytren, in his admirable lectures, now in the course of publication, admits four degrees; the first consists of a rupture of the small vessels of the part, infiltration of blood and ecchymosis; the second of a rupture of vessels of a larger size, laceration of the texture of the part, and considerable effusion of blood into its substance;—in the third degree of the injury, there is a deeper and more complete alteration, and very frequently mortification; and in the fourth, there is an absolute contrition and entire disorganization of the wounded part. As is well known, little danger attends the first description of these injuries, except when the ball has struck upon a part, under which there is an important organ, or upon glandular structures, or upon some of the organs of sense, as the eye; the following is an illustration of one of these exceptions.

Amaurosis from Contusion of the Eye-ball.

F., aged 26, was in the trenches on the 7th December. A bomb fell among the detachment where he was; all the soldiers immediately fell flat upon their faces; it exploded between the legs of our patient, and he only was wounded by its fragments —the left limb was so much injured as to require immediate amputation; his cap was shivered to pieces, and he received a number of contusions on different parts of his body; a small fragment had struck the eye, which caused considerable pain at the time, and was followed by ecchymosis of the lower eyelid—but as this appeared to be of little moment, the surgeon overlooked it. The man speedily recovered from the operation; but then unfortunately it was discovered that there was complete amaurosis of the injured eye, although no appearance of the injury remained. Many similar cases are observed in hospitals, and are generally produced by a blow of the fist, or thrust of any blunt body on the eyeball;—the amaurosis is generally incurable, although the humours of the eye retain a perfect transparency. It is in cases of the second degree of contusion that we observe those deceptive swellings, which, when they occur on the head or chest, have frequently misled the young surgeon to suppose that the subjacent bone has been fractured and depressed. The effused blood forms a circumscribed puddle, and the surrounding cellular substance becomes prominent, firm, and unyielding, so that it may be readily mistaken for the edge of the broken bone. It is worthy of remark also, that these swellings sometimes pulsate strongly for several hours, and thus somewhat simulate aneurisms; in a short time, however, the parts become do distended with the blood, that they must resist any further effusion, and the pulsation cease. Under the fourth degree of contusions are comprehended those most destructive injuries, in which the skin remains unhurt, but all the subjacent structures are frightfully changed, the bones smashed, the blood-vessels torn, and the muscles and sinews beaten into a jelly. These accidents used to be attributed to the wind of the ball, or to an electrical cause, brought into play by its rapid fraction with the air; but it is well known now by surgeons, although

the old opinion still prevails among soldiers, that they are the result of a ball nearly spent actually striking the part. We shall very briefly mention one or two cases, to show the different effects of point-blank and of spent shots. A soldier in the trenches was struck on the belly by a cannon-ball in its full fury. The whole of the abdominal parietes was carried away, and the crista ilii was literally cleanly cut, or sliced off;—the intestines hung out of this horrid wound, but they had not been injured; at least there was no appearance of any lesion;—the poor fellow died almost immediately. Contrast this case with the following. A cannon-ball struck another soldier on the left flank; no outward wound or bruise was to be seen; and his comrades thought that he shammed, in order to quit the field. But on examining the part which had been struck, the surgeon at once recognized that it was fluctuating, and disorganized to a great depth; and, after death, the abdominal muscles, the sacro-lumbalis, and the left kidney were found to have been reduced to a jelly, the lumbar nerves torn across, the transverse processes of the lumbar vertebræ, and the last ribs crumbling, and there was a large quantity of black blood within the abdomen and chest;—the skin alone appeared to have escaped, probably from its great elasticity.

I saw a case in the hospital at Antwerp of a soldier whose arm had been struck by a spent-ball—the skin and soft parts were uninjured, but the humerus was dislocated.

Many cases occurred of contusions of the chest, in which frightful hæmoptysis occurred; venesection and other depletory measures were used, with the happiest results, provided the internal injury had not been very serious. When the spine is the seat of the wound, paraplegia is a frequent consequence.

Larrey mentions a curious case of incomplete palsy of the pneumogastric nerve, from the ball striking the region of the stomach; the man lost his voice and taste completely, suffered from dyspnœa and dyspepsia, and the stomach had become insensible to emetics. Ventral hernia is another effect, which is often found to follow these injuries; but a far more disastrous consequence is rupture of the intestines, liver, spleen, or bladder. It is well known to hospital surgeons, that these accidents may be produced by the passage of a wheel over the belly, or the kick of a horse.—*Journ. Hebdom.*

Having been at this now famous siege, having witnessed the cases in the military hospital of Antwerp, to many of which attention will be drawn, no doubt, by M. Paillard, having seen and conversed with that gentleman himself, and being one of those "young English surgeons" to whom M. Paillard alludes, we venture to offer a remark or two on what we witnessed.

Arriving too late for the siege itself, on the very day in fact upon which it was terminated, we had no opportunity of seeing the wounded immediately on the reception of their wounds. When we reached Antwerp the ambulances were broken up; the temporary hospital at Berchem, the head quarters of Marshal Gerard and the army, distant about a mile and a half from Antwerp, and in the immediate vicinity of the trenches, was broken up also; and the wounded, French and Dutch, were lodged in the military hospital at Antwerp, then under the charge of M. Seutin, a Belgian surgeon-in-chief. We were told that in this hospital, which formerly had been a convent, there were upwards of a thousand, indeed fourteen hundred, wounded. Whether this computation was strictly accurate we cannot say, but certainly the number of the patients was considerable. The arrangements of the hospital were extremely good; it was clean, airy, well ventilated, and well warmed. The wards were in general large, holding from twenty to sixty patients or more. M. Seutin had under his direction hospital assistants, one or two of whom were intelligent, the rest but so so. Of M. Seutin himself we must speak in very high terms. He appears to have been long accustomed to the precision and despatch of a military hospital, yet cautious and careful where the case

demanded it. Possessed of extreme manual dexterity and precision, he had the head to direct as well as the hand to execute, and was altogether a good specimen of a continental surgeon. He treated the English visitors with urbanity, and showed them more attention than foreigners would probably have received in this Country. We gladly take this opportunity of expressing our thanks to M. Seutin, and we shall feel gratified if this expression of the high estimation in which we hold his talents should chance to meet his eye.

The cases in the hospital were for the most part severe, but perhaps the worst had been disposed of before our visit. A very long ward was filled with the cases in which amputation had been performed. If our memory serves us, union by the first intention had only taken place in one instance, and in that the amputation had been performed, and the dressings finally adjusted, in the ambulance or upon the field. We must say, however, that the mode in which we saw a stump dressed in the hospital immediately after the performance of amputation, was by no means calculated to ensure primary union. The soft parts were very imperfectly drawn down and supported, a quantity of loose charpie was placed at the extremity of the stump, (not *in* it,) and as no efficient precautions were taken to prevent retraction, we did not expect that union by the first intention would occur. When to this vicious mode of dressing we add the circumstance of the kind of diet usually taken by the French soldiery, and the very low regimen on which patients are usually kept after operations, we cannot be surprised at the want of success in obtaining union.

If, however, we find reason to condemn the system of dressing adopted in reference to stumps, we must exempt from this censure the treatment of compound fractures. So far as we could judge by the cases which we saw, this was very good. M. Seutin dressed two or three compound fractures of the thigh, and the manner in which he did so was highly creditable to himself, and to the school in which he had been formed. We certainly never saw n this country anything approaching to so masterly an exhibition of surgical manipulation. The compound fractures of the thigh were treated by the extended position of the limb, with the long splints of Dessault, a mode of practice which was found so advantageous in our own army during the Peninsular war, that a general order was issued for its general adoption.

A fracture-bed was employed in this and in other Belgian hospitals, which might very advantageously be introduced into this country. The patient lay upon a frame, which admitted of elevation or depression by pullies, attached to the top of the bed-posts. Proper apertures for the natural evacuations were made in the frame, and it could be opened, if necessary, at other places. By this means, wounds in the inferior surface of the body, or of the lower extremities, might be dressed from below, without disturbance to the patient or inconvenience to the surgeon.

We fear our limited space must compel us to stop here. We had intended to offer some further remarks, but we must defer them till our next, when we will notice some particular facts.

LXXXIX.

Mr. T. M'Carty's Miniature Bust of Mr. Brooks.

This is a very excellent likeness of a man well known and highly esteemed by a large circle of the profession. The artist is a young man of merit, the son of a half-pay officer, who is laudably turning his talents to the support of himself and family. The price is only a guinea, and the bust makes a handsome ornament for the mantlepiece of the medical practioner's library. We have placed it in our own library, as a mark of respect for the dead, and of encouragement for the living. It may be seen at Mr. Churchill's, (late Callow and Wilson's,) Princes Street, Soho.

XC.

MEDICAL REFORM. COLLEGE OF PHYSICIANS.

RUMOUR, with a hundred tongues, has lately been busy in circulating reports of meditated changes in the temple of Esculapius, in Pall Mall East. It is confidently asserted that mighty matters are agitated in the councils there, and that measures are in progress which will give general satisfaction, not only to the now alienated licentiates, but to the graduates of all respectable universities, who are now practising throughout the kingdom. We shall be highly gratified, but somewhat surprized if this prove true. We confess we are much less sanguine in our expectations than some of our friends and contemporaries, on this point. Kings and corporations have so seldom surrendered rights or privileges, voluntarily, and extended them to those beyond the pale of power, that such an event is not merely an exception to the general rule, but an exception to exceptions.

It is possible, however, that the spirit of monopoly may abate, when the advantages originally attached to it begins to diminish. We cannot believe that the most strenuous advocate for the present invidious distinction between Fellow and Licentiate is so dull of apprehension as not to perceive that the day is fast approaching when the said distinction will be an actual disadvantage to him who is now supposed to profit by it. The *medical* education of the Fellow and Licentiate, must now be the same; and the classical education, under existing circumstances, will differ very little. The professional success of the parties must depend on talent, and that talent is as likely to be on one side as on the other. Indeed the *aggregate* of this article is sure to be on the part of the Licentiates, from their numerical superiority, which is daily increasing. See, then, what is likely to be the result. The College, by degrading, as far as in its power lies, the great body of Licentiates, is perpetually recruiting a corps that must, while human nature is the same, be in active hostility to the oppressive corporation. It must be a very sorry consolation to that corps, that its members will, as far as possible, oppose hostility to hostility, and thus perpetuate the warfare, "even to the knife," between the contending factions! The College advocate, who can calmly contemplate this scene of feud and strife in a profession that ought to be liberal and united, is possessed of a mind which we do not envy, and which in the end, will not, perhaps, prove very advantageous to its owner. Both parties are now too extensive to act, in any thing like *union*, against each other; but the aggrieved party, being also the most numerous, will certainly bear in mind their wrongs, and act individually with hostile feelings towards the other. This enmity must be increased, too, by that most Machiavelian policy, the annual transplantation of a member or members from among the most distinguished of the Licentiates, to grace the tail of the Fellows! It is a piece of policy, founded on a thorough knowledge of the worst principles in human nature—vanity and self-interest! It is worthy of the darkest days of the Vatican and the Inquisition. The cruelty of the injury is rendered ten-fold more poignant and irritating by the mask under which it is perpetrated—that of LIBERALITY!!

The real merits of the case are now obtaining light among the community at large—and that to the disadvantage of the College monopolist. Medical men well know indeed that the *professional* education of the Oxonian or Cantab, is as good as that of the Edinburgh graduate; but the public are beginning to entertain an opinion that the Fellow of the College, who prides himself on a degree from the banks of the Cam and the Isis, rests his distinction on university honours, of which they naturally entertain some distrust, when their health and lives are subjected to the trial of purely medical knowledge. The FELLOW may hug himself in the pleasing conviction that his academic education in one of the English Universities, must secure him the confidence of the sick man; and he will not pay the slightest attention to the hint which

we now throw out, respecting his self-deception. Yet scarcely a day passes in which we do not hear the observation made by patients, that Oxford and Cambridge degrees will not now do in physic; and the recent example of a Collegiate Fellow openly espousing the cause of an ignorant quack, has not done much to prejudice the public in favour of the College.

Our contemporary, of the Medical Gazette, having hazarded an expression that the Licentiate was *degraded*, one of that order indignantly replies in the negative. Let us see. A man having laboured hard at Edinburgh, Paris, or elsewhere for three or four years, and taken his degree with honour, comes to London to practise. What does the College? It tramples the gradus of his alma mater under foot, and subjects him to three monthly examinations. In the first, he is ordered to describe the os frontis, or some other bone—in the second, he is asked what is the difference between a quotidian and a tertian fever—and, in the third, how much opium there is in a scruple of Dover's powder? If he answers these or such like questions tolerably well, he is placed on his bended knees to take a long Latin oath of fealty to that College which instantly expels him from its portals, and prohibits him from re-entering it, except by the express invitation of its president—nay, he is not even allowed to designate himself as a *member*—not a foot or even toe of that institution which he has sworn to reverence and aggrandize by all means in his power!! Now, if this be not DEGRADATION in the very letter as well as the spirit of the word, we are equally ignorant of language and of facts. Much do we fear that too many of the licentiates are not only degraded but *perjured* by the treatment which they receive, and the oath which they take. They must, indeed, be more or less than mortals, who can honour and promote the interests of an institution by which they are degraded, and turned adrift as outcasts!

Is it imagined that three or four monthly invitations to tea and coffee, in Pall-Mall East, where they are exhibited, in their helot condition, to the gaze of bishops, judges, and officers of the crown, can reconcile the licentiates to their abject state of vassalage? No verily! The red granite pillars (or their imitations) in the library, blush for the graduates of Edinburgh and Paris, when they go in with a ticket of permission from the president and fellows? We do not mince the matter, or disguise the feelings of the licentiates because we sincerely wish to see union, peace, and friendship between all the members of the medical profession. We are quite sure that the bond of good *fellowship* will never be cemented between the College and its *permissi* till the invidious distinction in question be obliterated. This obliteration, as we said before, is more to be wished than expected; because corporations will do things *collectively*, which the *individuals*, of which they are composed, would not sanction, in their private capacity.—Much, indeed, may be hoped from the temper of the times, the clear perceptions of the talented president, and the liberal disposition of *many* of the fellows of the College. Still, we fear that these combined influences will be insufficient, unless the licentiates, and the regular physicians throughout the kingdom throw off their supineness, and put their hands to the plough. The procedure is simple, constitutional, and must be successful in the end. An association (not a faction) should be formed for the redress of grievances. A committee should be appointed to draw up a calm, dispassionate, but firm address to the College, in the first instance, and to the Legislature, if necessary, stating the existing condition of the medical body politic in this country, and portraying the evils which flow from the present state of things. This petition should be circulated by tens of thousands through the community at large, in order that the grievance may be fully known and understood by the public. Of what use are declamations in medical journals, unless they stimulate to a united remonstrance from the regular graduates of England, Ireland, and Scotland, to the Legislature? This is the only procedure that offers the slightest chance of success, unless the Col-

lege itself should anticipate such an appeal to Parliament and the Public, by a liberal and effectual measure of reformation and concession.

Should such a piece of timely wisdom be evinced by this institution, we are confident that the College of Physicians will flourish as one of the most distinguished and enlightened bodies of professional men in Europe. Every regular physician in the three kingdoms would hasten to enrol his name as a member, and such a library and museum would gradually and rapidly arise, as might compete with any of the kind in the world. The College would then present lectures, publish transactions, and exhibit at its monthly meetings a re-union of the élite of the profession in this country.

BIBLIOGRAPHICAL RECORD;

OR,

Works received for Review since the last Quarter.

1. A Treatise on the Diseases of the Liver and on Bilious Complaints; with Observations on the Management of the Health of those who have returned from Tropical Climates, and on the Diseases of Infancy. By GEO. HAMILTON BELL, late Residency Surgeon, Tanjore. Octavo, pp. 152. Dec. 1832.

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2. The Dublin Journal of Medical and Chemical Science, &c. No. VI. January, 1833.

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3. The Physicians' Vade-Mecum; or a Manual of the Principles and Practice of Physic, &c. By ROBT. HOOPER, M. D. New Edition, considerably enlarged and improved, 1833.

☞ *Messrs. Renshaw and Rush have sent forth a new edition of Dr. Hooper's excellent Manual, under the superintendence of an erudite physician, who has much improved the original.*

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4. Traité Pratique des Maladies de l'Uterus et ses Annexes, fondé sur un grand Nombre d'Observations Cliniques. Atlas de 41 Planches in folio, gravées et coloriées, représentant les principales Alterations Morbides des Organes Genitaux de la Femme. Par Mme. Veuve BOIVIN, et par A. DUGES, Professeur, &c. Atlas, quatrième Livraison, 1833. Bailliere, Regent-street.

☞ *These splendid Plates ought to be in the library of every accoucheur.*

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5. The Liverpool Medical Gazette, or Monthly Journal of Medicine and the Collateral Sciences, No. 1. Jan. 1833, pp. 48 price 1*s*. Churchill, Princes-st. London.

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6. On the Structure of the Human Placenta, and its Connexions with the Uterus, &c. By THOMAS RADFORD, Senior Surgeon to the Lying-in Hospital, &c. Manchester. Octavo, pp. 23, with three Plates. Manchester, 1832.

☞ *This investigation is very creditable to the author. He differs from some eminent physiologists of the day; but adduces good reasons for his opinions.*

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7. Illustrations of the Elementary Forms of Disease. By ROBT. CARSWELL, M. D. Professor of Pathological Anatomy in the University of London. Fasciculus first.—Tubercle. Folio, pp. 16, and four Plates. including numerous Figures, 1833.

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8. Facts and Observations relative to the Disease commonly called Cholera, as it has recently prevailed in the City of York. By J. P. NEEDHAM, M.R.C.L. Octavo, pp. 138, 1833.

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9. A further Examination of the Principles of the Treatment of Gout; with

Observations on the Use and Abuse of Colchicum. By Sir CHAS. SCUDAMORE, M.D. &c. Octavo. pp. 127. Second Ed. enlarged. 1833.

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10. The Cholera Spasmodica, as observed in Paris in 1832, comprising its Symptoms, Pathology, and Treatment. By ABEL SMITH, M.D. Octavo, pp. 80. New York, 1833.

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11. A Theoretical and Practical Treatise upon the Ligature of Arteries. Translated from the French of P. J. MANEC, by Messrs. GARLICK and COPPERTHWAITE, with notes and Appendices, selected from the Writings of many celebrated Surgeons. Quarto, pp. 227, with numerous coloured Plates, price £1 17*s.* 6*d.* bds. Highley, London, Jan. 1833.

☞ *We have reviewed the original work in our last Number (p. 67—79), and have now only to recommend an excellent translation, with many valuable notes to our readers.*

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12. Cyclopædia of Practical Medicine, Part XIV. Feb. 1833.

☞ *This Part contains the articles,* JAUNDICE—KIDNEY DISEASES—LACTATION —LARYNGITIS — LEPRA — LEUCORRHŒA— LICHEN — HEPATITIS — MALARIA — MALFORMATION OF HEART—PRACTICAL MEDICINE — MELENA — MENORRHAGIA — *and* MENSTRUATION. *The chief writers are* Drs. LOCOCK, CHEYNE, STOKES, BROWN, CONOLLY, *and* CARSWELL. *This Part maintains its reputation.*

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13. Principles and Illustrations of Morbid Anatomy, adapted to the Elements of M. Andral and to the Cyclopædia of Practical Medicine, being a complete Series of coloured Lithographic Drawings, from Originals by the Author, with Descriptions, &c. By J. HOPE, M.D. Physician to the Marylebone Infirmary. Part II. Feb. 1833.

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14. An Essay on Hydrophobia. By J. L. BARDSLEY, M.D. Octavo, pp. 146. 1832.

An Essay on Diabetes. By JAMES L. BARDSLEY, M.D. &c. Octavo, pp. 1832.

☞ *Both these Essays are re-printed from the Cyclopædia of Practical Medicine, in which work they stand as able and conspicuous articles under their alphabetical heads.*

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15. New Views of the Process of Defecation, and their Application to the Pathology and Treatment of Diseases of the Stomach, Bowels, and other Organs; together with an Analytical Correction of Sir Charles Bell's Views respecting the Nerves of the Face. By JAMES O'BEIRNE, M.D. Surgeon Extraordinary to the King, &c. Octavo, pp. 286. Dublin and London, Feb. 1833.

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16. Memoir of the Life and Medical Opinions of John Armstrong, M.D. To which is added, an Inquiry into the Facts connected with those Forms of Fever attributed to Malaria or Marsh Effluvium. By FRANCIS BOOTT, M.D. Secretary to the Linnæan Society, &c. First Vol. 8vo. pp. 612. Feb. 1833; with a Profile and Autograph of Dr. Armstrong.

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17. Principles of Obstetric Medicine, in a Series of Systematic Dissertations on Midwifery, &c. By DAVID D. DAVIS, M.D. Parts 14, 15, and 16, 1833, with Plates, price 2*s.* each.

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18. A Demonstration of the Nerves of the Human Body, consisting of four Parts: —*Part the First,* the Cervical and Thoracic Portions of the Sympathetic, and the Nerves of the Thoracic Viscera. *Part the Second,* the Lumbar and Sacral Portions of the Sympathetic, and the Nerves of the Abdominal Viscera. *Part Three,* the Cerebral Nerves. *Part Four,* the Spinal Nerves. By JOSEPH SWAN. Part the Third, fourteen Pages of Letter-press and fourteen Plates, £3. 13*s.* 6*d.* Longman's, Feb. 1833.

☞ *Such a magnificent and national work deserves the patronage of all public bodies, and of every private practitioner who has the means of encouraging merit.*

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19. Remarks submitted to the Medical Professors of the Universities of Scotland and Ireland, as well as to the Licentiates, on the Necessity of Medical Reform, &c. By MACHAON. Octavo, pp. 16. Burgess and Hill, Feb. 1833.

☞ *We have touched on the same subject in the present Number.*

20. Researches on the Pathology and Treatment of some of the most important Diseases of Women. By ROBT. LEE, M.D. F.R.S. Physician-Accoucheur to the British Lying-in Hospital, &c. Octavo, pp. 220, with Plates, price 7*s.* 6*d.* Highley, Feb. 1833.

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21. The Hunterian Oration for 1833. Mr. HOWSHIP. Octavo, pp. 28.

☞ *We were deprived of the pleasure of hearing this Oration. We are informed that Mr. Howship delivered it without looking at the MS. If so, he has more than the memory of a Porson and a Parr united. It is almost entirely historical, and traces medicine and surgery from the earliest records to the present time. It is a very creditable oration.*

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22. The Outline of Human Physiology. By HERBERT MAYO, F.R.S. Professor of Anatomy in King's College, London. *The Third Edition.* Octavo, pp. 428, with woodcuts and Engravings. March, 1833. Burgess and Hill, 18*s.*

☞ *See Periscope.*

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23. Clinical Illustrations of the more important Diseases of Bengal, with the Result of an Inquiry into their Pathology and Treatment. By W. TWINING, M.R.C.S. and Assistant Surgeon of the General Hospital of Calcutta. Octavo, pp. 705. Parbury and Allen. 1833.

☞ *This work should be in the hands of every medical man who sails for our Eastern possessions. We shall notice its contents in our next.*

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24. A Discourse delivered on commencing the Lectures in Jefferson Medical College. By GRANVILLE SHARP PATTISON, M.D. &c. Philadelphia, 1832.

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25. Letter on Cholera from Professor Pattison to Dr. Carmichael, of Virginia. Philadelphia, 1832.

☞ *We are gratified to see that our distinguished countryman has ably and eloquently advocated the non-contagious nature of the late epidemic in the United States. An overwhelming majority of the most talented physicians in America, are of opinion that the disease was not imported into the United States, but originated there from causes in the earth or atmosphere, in the same way as other epidemics.*

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26. A Discourse introductory to the Course of Lectures on the Theory and Practice of Physic, in the Jefferson Medical College, 1832–3. By J. REVERE, M.D.

☞ *A very appropriate discourse.*

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27. Anatomie Pathologique du Corps Humain, &c. Par J. CRUVEILHIER, Professeur d'Anatomie, &c. Thirteenth, fourteenth, and fifteenth Livraison. Bailliere, 1830–31.

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28. A Treatise on Indigestion and its Consequences, called Nervous and Bilious Complaints, with Observations on the Organic Diseases in which they sometimes terminate. By A. P. W. PHILIP, M.D. F.R.S. Seventh Edition, improved, Renshaw and Rush, March, 1833.

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29. The Dublin Journal of Medical and Chemical Science, No. VII. March, 1833.

☞ *This contemporary is rapidly acquiring strength, and consequent circulation—* MOBILITATE VIGET.

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30. Letters on Cholera Asphyxia, as it has appeared in the City of New York. By MARTIN PAYNE, M.D.

☞ *The mercurial treatment appears to have been the most successful in New York. The idea of importation and contagion, in respect to cholera, is scouted by all the most scientific observers in America.*

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31. The Dissector. By R. DEWEY FORSTER. Part the First.

The Demonstrator; being an Explanation of the Dissector, in 16 Parts, Part the First, 8vo.

☞ *This ingenious work will be noticed in our next.*

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32. Traité Pratique des Maladies de l'Uterus et de ses Annexes, &c. Par Mad. BOIVIN et par A. M. DUGES. Fifth Fasciculus. Bailliere, March, 1833.

☞ *This work will be found analyzed in this Journal regularly.*

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